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CONTENTS:

ORIGINAL ARTICLES: PAGE

On the Anatomy of Tænia Crassicollis Rud. By A. E. Loveland, B.A..... 67
Clinical Diagnosis in Veterinary Ophthalmology By L. Van Es, V.S..... 90
Unsuspected Poisoning by Sterilized Meat and Milk of Tuberculous Animals. By James Law, F.R.C.V.S..... 101
Professional Etiquette. By Claude D. Morris, V.S..... 109
Hæmoglobinuria. Extract from Letter of John M. Eshleman, V.M.D..... 115
Pyo-septhamie in Foals Caused by Phlebitis Umbilicalis. By John Wende, V.S..... 116
Nails In Feet. By John A. Bell, V.S..... 119
Choking and the Advantages of Belladonna in Treatment of Same. By John Meikle, M.R.C.V.S..... 121
A Complicated Wound of the Leg. By John M. Eshleman, V.M.D..... 122
Obituary.—Dr. Robert C. Hutchings..... 123

EDITORIAL:

Current Literature for Veterinarians—Continued..... 124
New York Veterinary Societies..... 127
Pennsylvania State Veterinary Medical Association..... 127

SOCIETY PROCEEDINGS:

Massachusetts Veterinary Association..... 128
German Veterinary Medical Association from New York and Vicinity..... 134
Keystone Veterinary Medical Association..... 134
New York State Veterinary Medical Society—Fourth Annual Meeting..... 136
United States Veterinary Medical Association..... 154
Veterinary Medical Association of New York County..... 155
Second Annual Meeting of the North Dakota Medical Association..... 157
Ontario Veterinary Medical Society..... 159

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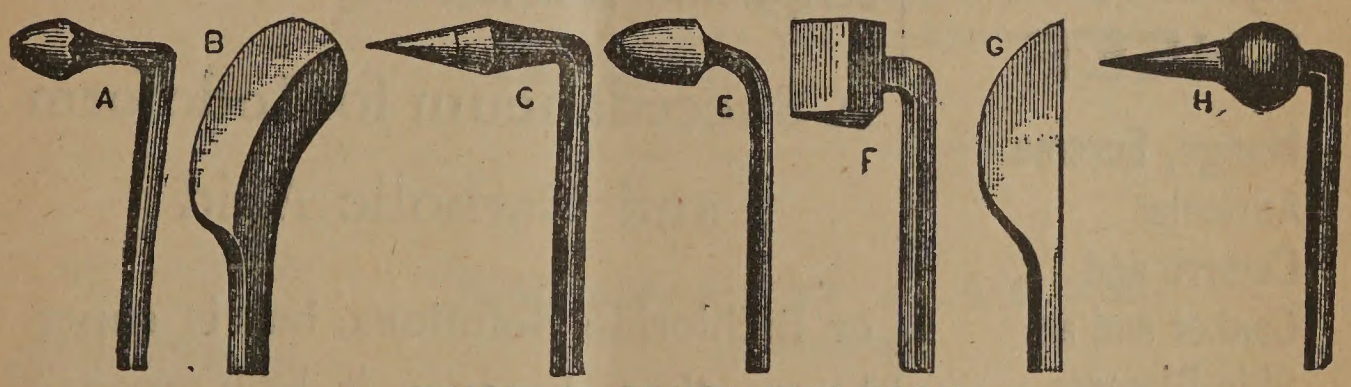

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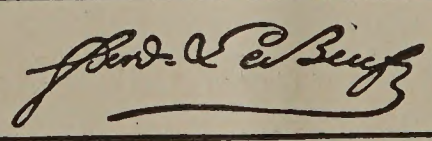

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VOL. XV. FEBRUARY, 1894. No. 2.

† ON THE ANATOMY OF TÆNIA CRASSICOLLIS RUD.

BY A. E. LOVELAND, B.A.,
Assistant in Biology, Wesleyan University, Middletown, Conn.

SYNONYMY—A. ADULT STAGE.*

1767 *Tænia cucurbitina* Pallas, pro parte.
1782 *T. collo brevissimo* Bloch.
1782 *T. serrata* Gœze.
1782 *T. globulata* Gœze.
1786 *T. moniliformis* Batsch.
1786 *T. serrata* Batsch.
1788 *T. serrata a, cati domestici* Schrank.
1790 *T. serrata b, felis* Gmelin.
1793 *T. felis* Carlisle.
1800 *Alyselminthus serratus* Zeder.
1803 *Halysis serrata* Zeder.
1810 *T. crassicollis* Rudolphi.

B. LARVAL STAGE.‡

17— *Vermis vesicularis muris* Hartmann.
1781 *Tænia hydatigena* Pallas.
1782 *Vermis vesicularis tæniaeformis* Bloch.

---

† "G. Brown Goode" Prize Thesis, Wesleyan University, 1893.

* In making up the synonymy of this species, I have accepted as synonyms several names which Rudolphi mentions, although I have not been able to find the articles in which the names were originally used, and so can give them only on Rudolphi's authority.

‡ The above synonymy I accept from Rudolphi, as I have been able to find very few of the books in which these names are given.

1782 *T. vesicularis fasciolata* Gœze.
1788 *Hydatigena tæniaeformis* Batsch.
1788 *Vesicaria tæniaeformis* Schrank.
1788 *Vesicaria muris* Schrank.
1790 *T. vespertilionis* Gmelin.
1790 *T. hydatigena* Gmelin.
1790 *T. murina* Gmelin.
1795 *Hydatula macrocephala hepatis musculi* Viborg.
1803 *Cysticercus tæniæformis* Zeder.
1803 *C. vespertilionis* Zeder.
1810 *C. fasciolaris* Rudolphi.

HOSTS—A. ADULT WORM.

Felis catus.—Wild cat (of Europe).
Felis domestica.—Domestic cat.
Felis concolor.—Puma, Cougar, Panther.
Felis macroura.—'Kuichua.'
Felis maniculata.—Egyptian cat.
Felis melivora.
Felis onca.—Jaguar.
Felis mitis.
Felis tigrina.—Margay (?).
Putorius erminea.—Stoat, Ermine.

B. LARVAL STAGE.

Mus decumanus.—Brown or Norway Rat.
Mus musculus.—House Mouse.
Mus rattus.—Black Rat.
Arvicola amphibius.—Water Vole.
Arvicola arvalis.—Field Vole.
Plecotus auritus.—Long-eared Bat.

GEOGRAPHICAL DISTRIBUTION.

Europe.—Germany, found by Leuckart; Austria, found by Rudolphi; Italy, Grassi and Parona; France, Ralliet; England, Hassall; Denmark and Iceland, authority of Raum.

North America.—United States.*—Pennsylvania, at Philadelphia, by Leidy; Washington, D. C., Stiles, Curtice, Hassall; Connecticut, at Middletown, by Loveland.

Asia.—Persia, by Baird.

---

* Although very few printed records are to be found of the presence of this parasite in this country, the species is evidently quite common, as a number of college zoologists have mentioned the form to me.—C. W. S.

* BIBLIOGRAPHY.

(1684) REDI, FRANCESCO.—Osservazione di Francesco Redi intorno agli animali viventi, che si trovano negli animali viventi in Firenze (quoted from Rudolphi).

(1729) REDI, FRANCESCO.—Opisculorum pars tertia, sive animalculis vivis quæ in corporibus animalium vivorum reperiuntur observationes. Lugd. Bat. (Rudolphi).

(1767) PALLAS, PETER SIM.—Neue Nordische Beyträge. Bd. I., p. 47; Tab. 2; fig. 1, 2. A. B. (Rudolphi).

1782 BLOCH, MARCUS ELIESER.—Abhandlung von der Erzeugung der Eingeweidewürmer, p. 19, n. 18, Tab. 6, fig. 1–3. (Rudolphi).

1782 GOEZE, JOHANN AUGUST EPHRAIM.—Versuch einer Naturgeschichte der Eingeweidewürmer thierischer Körper, p. 337, Tab. 24. fig. 1–6; Tab. 25 A, fig. 1–5. (Rudolphi).

(1786) BATSCH, AUGUST JOHANN GEORGE CARL.—Naturgeschichte der Bandwurmgattung ueberhaupt und ihrer Arten insbesondere, nach den neuern Beobachtungen in einem systematischen Auszuge, verfasst von Aug. Joh. George Carl Batsch. Mit 5. Kupfert, Halle. 298 P. 8 p. 135, n. 9, fig. 59. *T. moniliformis.* P. 138, fig. 19, 32, 61, 63, 67. *T. serrata.* (Rudolphi).

(1788) SCHRANK, FRANZ VON PAULA.—Verzeichniss der bisher hinlänglich bekannten Eingeweidewürmer, p. 36, n. 107. (Rudolphi).

(1790) GMELIN, JOSEPH FRID.—Systema Naturæ, p. 3067, n. 31, p. 3068, n. 32. (Rudolphi).

(1793) CARLISLE, ANTHONY.—Transact. Societatis Linneæ. II t. 25, fig. 11. *T. felis.* London. (Rudolphi).

(1800) ZEDER, JOHANN GEORGE HEINRICH.—Erster Nachtrag zur Naturgeschichte der Eingeweidewürmer von J. A. E. Goeze, mit Zusätzen und Anmerkungen, herausgegeben von J. G. H. Zeder. Mit 6 Kupfert. Leipzig, p. 286. (Rudolphi).

(1803) ZEDER, J. G. H. Anleitung zur Naturgeschichte der Eingeweidewürmer, Bamberg. P. 363, n. 50. (Rudolphi).

1810 RUDOLPHI, CARL ASMUND.—Entozoorum sive Vermium Intestinalium Historia Naturalis. Vol. II, p. 173.

1845 DUJARDIN, FELIX.—Histoire Naturelle des Helminthes, p. 603.

1850 DIESING, CARL MORITZ.—Systema Helminthum.

---

*I have been unable to obtain those works the dates of which are enclosed in parentheses.

1855 LEUCKART, R.—Erziehung des *Cysticercus fasciolaris* aus den Eiern von *Tænia crassicollis* (Leipzig); Zeitschrift für Wissenschaftliche. Zool. VI.

1857 KÜCHENMEISTER, FRIEDERICH.—Parasites of the Human Body. Translated by Lankester.

1873 NITSCHE, HEINRICH.—Zeitschrift für Wissenschaftliche. Zool. Vol. XXIII, Heft. 2.

(1874) SCHIEFFERDECKER.—Jenaische Zeitsch. f. Naturwissensch. Bd. VIII.

1879 GRASSI ET PARONA.—Sopra la *Tænia crassicollis;* Atti soc. Ital. sc. natur. XXII. 1 taf. Milano, p. 207–219.

1880 MONIEZ, R.—Essai monographique sur les Cysticerque ; Travaux de L'Institut Zoologique de Lille, p. 60.

1882 PERRONCITO, EDOARDO.—I Parassiti Dell 'Uomo E Degli Animali Utili, p. 208.

1882 ZÜRN, F. A.—Die thierischen Parasiten auf und in dem Körper unserer Haussäugetiere.

1883 RAUM, J.—Beiträge zur Entwickelungsgeschichte des *Cysticercus fasciolaris.* Dissertation, not published in any journal.

1886 LUDWIG, H.—Leunis' Synopsis der Thierkunde. Vol. II, p. 867.

1886 RAILLIET, A.—Éléments de Zoologie Médicale et Agricole. Paris. P. 235, 236, fig. 117. *Cysticercus fasciolaris.*

1888 VOGEL, LEONARD.—Ueber Bau und Entwickelung des *Cysticercus fasciolaris* Rud. Inaug.-Diss. Erlangen. Osterwieck Harz, Buchdruckerei von A. W. Zickfeldt.

1892 NEUMANN, L. G.—Treatise on the Parasites and Parasitic Diseases of the Domesticated Animals. P. 467–469, fig. 244. (Translated from the French by Fleming).

1892 BLOCHMANN, F.—Ueber Sommer's sog. "Plasmatische Längsgefässe" bei *Tænia saginata* Goeze, und *Tænia solium* L.; Centralblatt für Bakteriologie und Parasitenkunde. No. 11-12, p. 373–379.

1893 STILES, CHARLES W.—Bemerkungen ueber Parasiten—17: Ueber die topographische Anatomie des Gefässsystems in der Familie Tæniadæ; Centralblatt für Bacteriologie und Parasitenkunde. No. 14-15, p. 462, 463.

HISTORICAL REVIEW.

Francesco Redi (1684) seems to have been the first who published upon this species. Rudolphi refers to a mention of this worm in the "Observations upon Parasites of Living Animals" by Francesco Redi in 1684.

Peter Sim. Pallas next described it in 1767 in the "Neue Nordische Beyträge," and catalogued it "sub *Tænia cucurbitina.*"

M. E. Bloch (1782), in his "Abhandlung von der Erzeugung der Eingeweidewürmer," names this species "*Tænia collo brevissimo.*"

In brief, he describes it as follows: The head does not rest on a long thread-like neck, but is sessile upon the broad but very minutely segmented body itself. The head is surrounded with thirty-six hooks in two circular rows, those of the inner row being the largest. The four suckers are plainly visible to the naked eye; the anterior segments are broader than long, while the posterior are longer than broad. The genital openings lie on both sides of the body in alternate segments. It lives in the cat; the longest specimens measuring two feet in length, and from two-twelfths to three-twelfths inches in breadth.

J. A. E. Goeze (1782) describes the worm in general like Bloch, specifying five brief designations:

1st. The gradual running of the segments directly into the head.

2d. At the posterior end the irregular genital openings can be seen with the naked eye.

3d. The genital openings are not alternate in some cases, but successive.

4th. The posterior segments are long and narrow.

5th. The head is unusually large, with four suckers and a double crown of hooks.

He names it "*Tænia serrata,*" because of the serrate appearance of the ends of the segments, each segment extending and overlapping the next one, and ending on both sides in very sharp points, the whole effect being much like a carpenter's saw.

Rudolphi also mentions in his synonymy of this worm Goeze's description of *T. globulata*, but this latter is evidently another species, if I understand Goeze's description.

A. J. S. C. Batsch (1786) calls this worm "*Tænia moniliformis,*" although he refers to it as "*Tænia serrata*" of Goeze. In this case, as well as in the case of the following six authors, I simply quote Rudolphi, as Dr. C. W. Stiles, who kindly procured for me most of the remaining works, was unable to get these for me.*

*I want to express my deep gratitude also to Dr. Stiles, not only for placing his laboratory, together with his resources for obtaining the necessary literature, entirely at my disposal, but also for his assistance all through the investigation, and especially for his aid in adding to and correcting the article before publication.

Franz von Paula Schrank (1788) mentions the species in his catalogue of the worms known up to this year (1788).

J. F. Gmelin (1790) also speaks of it in his "Systema Naturæ" as "*Tænia serrata*," and again as "*Tænia moniliformis*."

Anthony Carlisle (1793) called it "*Tænia felis*," in his publication in the "Transactions of the Linnean Society."

J. G. H. Zeder (1800) named it "*Alyselminthus serratus*" in his "Erster Nachtrag zur Naturgeschichte der Eingeweidewürmer von Goeze." Again, in 1803, Zeder, in his "Anleitung," describes it sub "*Halysis serrata*."

Carolo Asmundo Rudolphi (1810), in his classical work upon intestinal parasites, gives the above bibliography of the species, and, because of the specially broad neck, names it "*crassicollis*" (broad neck). His description is as follows:

Characteristics: "Tænia capite crassiusculo cum collo brevissimo continuo; rostello cylindrico; articulis anticis transversis, insequentibus cuneiformibus, postice acutis, reliquis oblongis; foraminibus marginalibus vage alternis."

In further details his description is not different from Bloch and Goeze given above, except in these particulars: he denies that the genital openings may be sometimes successive on the side, but says they are always alternate; each margin that has the genital openings is broader than the opposite; head, rostellum and hooks larger than in most tape worms; neck continuous from the head, and of nearly same breadth as body, which shows the discrimination of this from other worms. Thus Rudolphi names it *crassicollis* because it was broader necked than most tape worms, and from his time the name *crassicollis* has been maintained, although *Taenia serrata*, so named by Goeze, should by priority have the precedence.

M. Felix Dujardin (1845), in his "Histoire Naturelle des Helminthes," gives the length as 300 to 400 millimetres; he believes the species is identical with *T. laticollis*.

C. M. Diesing (1850) describes *T. crassicollis* in his classification of Helminthology; measurements: length one foot and over; breadth, middle segments one-third of an inch, last segments one-sixth of an inch.

Habitation, cat family; found in different species at different times of the year; *Felis concolor*, April, May and November; *Felis melivora*, March and April; *Felis onca*, November; *Felis paradalis*, April; *Felis macroura*, April; *Felis tigrina*, June, September and October.

Up to this time nothing was known concerning the larval stage of the worm, as the great truth later discovered by Frederich Küchenmeister had not yet dawned upon the scientific world, and it was the similarity between the *Cysticercus fasciolaris* and the *T. crassicollis* that first led Küchenmeister to the conception that *Tæniæ* were but adult forms of *Cysticerci* which in their larval stages lived in the bodies of animals upon which the hosts of the adult *Tæniæ* preyed. In this way *Cysticercus fasciolaris* encysted in the liver of a mouse could easily be transmitted to the intestine of a cat, and there the worm become the adult *crassicollis*. Besides other experiments Küchenmeister performed that of feeding mice with the eggs of *T. crassicollis*, and afterwards reversing the feeding, proved conclusively that these *Tæniæ* were but adult forms of *Cysticerci*.

About this same time (1853) R. Leuckart was experimenting with parasites, and to apply Küchenmeister's theory made a trial of feeding mice with the eggs of *Tænia crassicollis;* and in a letter to von Siebold (1855) he says he successfully infected four out of five white mice with the eggs of the *T. crassicollis*, and upon opening the mice after four months found them in the cyst stage in the liver, and in less developed stage in the omentum.

Frederich Küchenmeister (1857), in describing the cyst form, says the segmented joints are developed somewhat, but the vesicle which is large in other cyst forms becomes dropsically degenerate in this cyst. He was never able to discover the six embryonic hooks on the oncosphere.

Heinrich Nitsche (1873) is the first who studied the muscular mechanism of the rostellum and neck. He says: the rostellum is the crown of the head and bears the hooks; it is an elastic cushion and cannot contract of itself, but does so only by means of the sheath of muscles surrounding it. This rostellum can be pushed out and in by the muscles, but it is fastened in such a way that the contraction of the trunk has no influence at all upon the position of the hooks, for these can be turned in and out as well when the trunk is withdrawn as when it is extended. The movement of the hooks is caused by the drawing in of the rostellum.

Radial muscles, longitudinal, and circular muscles: the circular muscles and the longitudinal muscles below the rostellum being contracted, at once draw down the rostellum, changing its quiescent form to a meniscus form, which is open towards the front, so that the hooks on the border assume an almost vertical position. The anterior surface of the rostellum being covered only by skin is

more movable than the posterior and therefore the rostellum is pulled in and down.

But besides the longitudinal muscles the radial muscles act on the anterior surface, and move the hooks downwards in proportion as the diameter of the posterior end narrows by being drawn inwards, thus having the effect of straightening the hooks. The radial muscles bend in a bow-shaped curve away from the periphery to the centre, and then out again to the periphery on the other side, crossing one another in their course through the series of layers.

Schiefferdecker (1874). (I was unable to find any matter written by this author).

Grassi et Parona (1879) give the length of the worm from 25 to 60 cm., rostellum having from 40 to 52 hooks, the longer ones 0.3 mm. to 0.32 mm. long, the shorter ones 0.18 mm. long, the rostellum itself 0.39 mm. in diameter. Grassi found the smallest mature *T. crassicollis* yet mentioned, namely, 15 cm. long. It was found in the stomach of *Felis catus* freshly killed, about two cm. from the pyloric end, firmly adhering, and still alive.

It is interesting that Grassi and Parona thus give record of finding the *T. crassicollis* in the stomach. Neumann and Perroncito also state the same. Its usual habitation, according to Grassi and Parona, is the middle part of the small intestine. It thus occurred in 90 out of 100 post-mortem examinations. Grassi also found reported in a medical journal a case of *T. crassicollis* in the stomach. Groves states that tape-worms are not uncommon in the stomach of horses; Diesing also cites that the *Tænia plicata* (=*Anoplocephala plicata*) is often found in the stomach of the horse, that the *T. pectinata* has been found in the stomach of the *Arctomys marmota*, and that the *T. salmonis* occurs in the stomach of the Olmul. Yet, despite these facts, the lodgement of *T. crassicollis* in the stomach is undoubtedly an exceptional and rare occurrence.

Another strange thing found by Grassi and Parona was that several tape-worms were discovered by them extended through the intestinal wall into the body-cavity, and some were even found lying free in the body-cavity, bearing the appearance of having been dead for some time. But this was undoubtedly due to a perforation of the intestine near the spot where the animals were attached, which let them out into the cavity. These authors give no internal anatomy of the worms, only discussing these two points: First, their living in the stomach; secondly, being found free in the body-cavity.

R. Leuckart (1879-1886), in works published between these

periods, describes the rostellum and scolex the same as Nitsche, but disagrees with that author in that the rostellum has powers of contraction itself, and is not merely an elastic cushion. He says that besides the longitudinal and circular muscles, outside the rostellum is a layer of circular muscles directly ensheathing the rostellum, and these were overlooked by Nitsche.

R. Moniez (1880) adds a few facts. The cysts found in the liver of the mice were noticed as follows: those buried within the liver were much pinched and elongated, while those on the surface were expanded and filled with a liquid accumulated within the cyst-wall. The latter were ovoid in shape and from three to four millimetres in diameter. In the interior is often found a very fine granular mass, produced by the degeneration of the substance within (or the excrescence), which can be colored easily for examination by ammoniated picro-carmine. The cyst covering or shell is a modification of the connective tissue of the liver.

Comparing the *Cysticercus fasciolaris* with the *C. pisiformis*, the former does not leave the liver, but remains there, if not disturbed, until the mouse dies, while the latter leaves the liver and fixes itself to the peritoneum, casting off its surrounding cyst. The young *Tænia* is invaginated in the vesicle, and protrudes a very little, but is diminished by the contraction of the muscles of the worm, which are continuous with those of the vesicle. This is the reason the cyst is so large and the vesicle so small. According to Leuckart the segments of the Cysticerci all change and new segments take their place.

Dr. Edoardo Perroncito (1882) gives the measurements as 150 to 600 mm. in length and 4 to 6 mm. broad anteriorly. Hooks 40 to 52 in number, the larger ones 0.30 to 0.32 mm, the shorter 0.18 mm. long. The diameter of the suckers 0.39 mm. The genital openings are irregularly alternate. Lastly he describes a case occurring in Fuelli, Italy, of a *T. crassicollis* being found in the stomach of a cat.

F. A. Zürn (1882) makes the following points: first, that the hooks are used not only for holding fast to the intestinal wall, but for boring purposes as well; secondly, that the larvæ of these tape-worms are also segmented worms (*Cysticercus fasciolaris*) and live in the liver of mice.

J. Raum (1883) states that Wepfer (1688) was the first who noticed this worm, but did not attempt to identify it or name it. Raum himself made an extended study of the habits and life of *C. fasciolaris*. He made a successful infection of mice with eggs

of adult *T. crassicollis*, though by some mistake in the method of inoculation many of the mice died the first week, some of which showed signs of cysticerci, while in others there was no trace of infection at all. Only 5 per cent., however, failed to show signs of the appearance of the cysticerci.

In Copenhagen similar experiments showed only a failure of 5 per cent., while in Iceland 23 per cent. failed

Blumberg gave record of 28 per cent. failing, but he experimented with only fourteen mice.

Raum's study of the growth and development of the cyst in the liver of the mouse is briefly as follows: After five to seven hours no embryos can be seen in the stomach, hence they lose their shells in two, three, or four hours. Only four times did he find the embryo or oncosphere in the large intestine, and each of these times only a few hours after feeding, showing the cyst to be really on its passage to the small intestine, while in the small intestine itself could be seen numbers of them, so many that he counted ten in his microscope field. Out of several hundred intestinal examinations, only twice did he find the unmistakable boring hooks of the oncospheres, and this will not be considered remarkable when it is remembered that Küchenmeister was never able to see the hooks at all at this stage. One important point remains to be noticed from his observations, namely, that he never found any oncospheres in the capillaries of the mesentery, but found three in the portal vein, one at nine, another at twenty-seven, and another at fifty-two hours after infection.

H. Ludwig (1886): "*Tainia*" (a band) is the name of a tapeworm in Aristotle; *tænia*, it is called in Pliny. "*Crassicollis*" from crassus, thick; and collum, neck. Length 10-60 cm.; head, semispherical, 1.5 mm. broad; double row of hooks (48-52), neck 1.8 mm. broad; ripe segments as long as broad, or even longer; edges projecting.

A. Railliet (1886): *T. globulata* Goeze; *T. crassicollis* Rudolphi. Length 15 to 60 cm.; a double crown of hooks 26 to 52 in number (often 34), the large ones 0.38 to 0.42 mm. long. the shorter ones 0.25 to 0.27 mm. long. The posterior segments measure 8 to 10 mm. in length, by 5 to 6 mm. in breadth. Eggs globular, from 0.031 to 0.037 mm. in diameter. Larval form found in the liver of rats, Surmulots (Norway rats), common mice, meadow-mice, water-rats, and even in the horse-shoe-bat, according to Bloch. The cysticercus is remarkable for its elongated form, and the smallness of the development of the caudal vesicle. The head is

invaginated, the body simply corrugated, but with no trace of genital organs. *T. semiteres* Baird, he thinks, is but a monstrous form of the *T. crassicollis.*

As the subject of his thesis for a doctor's degree Vogel (1888) prepared numerous investigations upon the *Cysticercus fasciolaris*, and he gives a very exhaustive discussion of the subject. From this I have merely chosen the most salient and important points.

First some eggs of *T. crassicollis* were fed to mice, and to determine whether they lost their shells in the stomach or not, other eggs were placed in gastric juices artificially prepared in the laboratory at a temperature of 35 degrees C., and left there from one hour to two days, but in no case, when examined under a microscope, had they completely lost their shells. Vogel concluded from this that the shells were not completely lost till they had passed through the large intestine, though they were probably weakened and partly lost in the stomach. As to the passive wandering of the embryos through the blood claimed by Küchenmeister and Heubner, and denied by Raum, Vogel saw nothing of the kind, though after twenty-eight days he saw a cyst lying in the wall of a blood-vessel. In no case either did he see any signs of hooks, from which this stage is called the oncosphere, although Raum, and Raum alone, has noted such an observation. Upon examination of the liver after four or five days, the round bodies of the cysts were plainly visible; after six to eight days no differentiation was found in the egg-cyst, though the tough outer coat could be noticed; after nineteen days the first appearance of the muscles, after twenty-eight days the cysticercus is plainly seen within, after seventy-four days the head begins to be seen and the segments to show, and after eighty-four days the invaginated head is well shown. Goeze has recorded as high as fifty specimens of the cyst form in the liver of a mouse, and of the adult worm the author (Vogel) found from three to fifteen specimens in one cat. Seventy-one mice were fed with the eggs of *T. crassicollis*, and in no case after the cysts were fully developed did he find more than two in each liver, though in the first stages they were numerous. The first few days after the feeding the liver became covered with numberless minute white spots, which in fourteen or fifteen days grew more heterogeneous and larger. A liver of sixteen days showed the cysts as large as the head of a small pin, and were scattered all about the peritoneal covering of the liver. By the twenty-fifth day they had grown to the size of a

large pin-head, and in fifty to seventy days had reached the size of two large pin-heads. By this time the number had rapidly diminished, the strongest driving out the weakest, though the mice had not shown a sign of disease during the whole time, nor did they for the five months the experiments were in progress.

In the laboratory of the Zoological Institute of Berlin are two specimens of *Cysticerci*, the one 45 cm. long, the other 34 cm. long, and the segments in both are very strongly developed.

The body of *Cysticercus fasciolaris*, according to Vogel, has a hyaline exterior membrane, then three layers of cuticle,* the first light colored and thick, the second light but thinner, and the third still lighter and thinner. Very minute canals or pores enter the interior. Next to the cuticle-layer is a very thin layer of circular muscles, and beneath these a sub-cuticle layer of cells which lie with their points towards the outside in a longitudinal direction. Below this a thin layer of muscular tissue interspersed with calcareous bodies, and under this a stout layer of thicker muscles which radiate towards the ends and move the whole body.

The excretory canals of the *Cysticercus*, like those of the *Tænia*, are four in number. They empty near the bladder into two main tunnels, and these two are joined immediately into one central median canal which opens into the bladder by a single excretory pore. The outer ventral canals he describes as connected by a "*Ringgefäss*" or circular canal running at the posterior border of each segment, but he figures this connective canal as a single straight-coursed canal, hence it is evident that Vogel did not clearly understand this part of the anatomy, because in the first place his description does not agree with his figure, and in the second place both figure and description are incorrect. The inner and smaller dorsal canals run parallel with the larger outer ones, but have no transverse canals joining them together; on the contrary, they run completely through the worm from anterior to posterior end without a break. Both canals give off fine capillaries which pass into the parenchyma, and anastomose in all directions. In the head they unite just below the rostellum in many folded serpentine coils, and end blindly just below the suckers, between them and the rostellum.

Nervous system: two main trunks that connect at the head, passing like a bow over the top of the rostellum † In the head it

*I could find but two of these, though there may be three.

†Vogel here must have meant the polster, for the bow unites just below the rostellum, but just over the top of the polster.

is a trifle larger than in the trunks, but nowhere is there any swelling that approaches a ganglion. Both nerve-trunks pass down behind the ventral canals, and there is but one single trunk without branches. They end bluntly in the tissue of the last segment. Nitsche and Steudener saw this trunk divided into two parts by muscles passing between the fibers, Steudener even seeing three divisions, and Vogel saw the same number as Steudener.

L. G. Neumann (1892): Worm 15 to 60 cm. long; head 1.7 mm. broad, with a powerful rostellum; a double crown of 29 to 52 hooks (most frequently 34), the largest .38-.42 mm. long, the smallest .25-.27 mm. long. Posterior segments 8-10 mm. long and 5-6 mm. broad. Ova globular 0.031 to 0.037 mm. in diameter. Cyst-form is remarkable for its elongated form and smallness of bladder. Length of whole cyst when stretched out 3 to 20 cm.

Diseased cat shows symptoms as follows: Gradual diminution in size, abdomen retracts, complete loss of appetite, slight diarrhoea at the commencement, then constipation, abundant salivation, sometimes spasmodic contraction of the muscles of the upper lip, great prostration and loss of sight; hearing somewhat affected; vomiting which gives temporary relief.

Nervous phenomena: epileptiform convulsions and a violent gastric catarrh.

F. Blochmann (1892), in the "Centralblatt für Bacteriologie und Parasitenkunde," mentions the peculiarity at the junction between the transverse canal and the lateral canals. It is this: that out of each chief (ventral) canal there springs towards the median line two branches which unite together after a short distance, and pass through transversely as one canal. Thus a section of the transverse canal made close to the lateral canals, shows two cross sections of the transverse branches, while a section still nearer the median line shows only one section of the transverse canal. Between these two branches runs the dorsal canal, so that in a transverse section of the worm through one of the proglottides, the dorsal canal lies in a triangle, the lateral sides of which are formed by the roots of the transverse canal, and the base by the ventral canal.* (Fig. 12 shows this).

Charles W. Stiles (1893), in the "Centralblatt," confirms the observations of Blochmann as to the division of the transverse canals into two roots where they join the ventral canal, and adds

* Vogel it seems had already noticed a peculiarity in the transverse canals at either end, but he describes the form as circular, and as we have seen, did not understand the exact conditions at all.

further that both of the genital canals cross from the median field to the margin on the ventral side of the nerve and longitudinal canals.

Specific Name.—In justice to Gœze the name "*Taenia serrata*" should be retained, for he named it thus in 1782, and Rudolphi named it *crassicollis* in 1810, but as I am not monographing the genus *Tœnia*, I will retain the name now commonly accepted, i. e., Rudolphi's "*Tœnia crassicollis.*"

It was named by both Pallas and Bloch prior to 1783, but "*Tœnia cucurbitina*" was already used for a species found in another animal, and the name of Bloch, "*T. collo brevissimo,*" is trinomial, and hence cannot be accepted.

ORIGINAL OBSERVATIONS.

From my own observations on this species I have obtained the following results:

There were eight of the worms living in the intestine of the cat when I found them. These eight measured from 17 cm. to 31 cm. long; average 23½ cm. Some that I had access to in the laboratory of the Bureau of Animal Industry, at Washington, D C. belonging to Leidy's collection, measured 12-15 cm. in length. The width varies from 2.5 mm. to 5 mm., the number of segments 160-220; the first segments 1 to 2 mm. broad, and the posterior segments 3-5 mm. broad, and 6-10 mm. long.

The external appearance is as in Fig. 1, Plate 1, the special points of interest being: the thick neck, the first segments wide but extremely short, these gradually growing longer, until at the posterior end they are longer than broad, the serrate appearance of the segments which led Gœze to name the worm *T. serrata*, this being caused by the pointed ends of each segment overlapping the succeeding one. Each segment has a genital opening on the side, just anterior to the centre, but in no case did I find the openings perfectly regular in alternation as has been described before, but as often successive as they were alternate, sometimes as many as six occurring in succession (more frequently two or three) on the same side. The last segment has two free openings to the exterior from the excretory system.

The head or scolex is about the same width as the neck, from 1 to 1.7 mm. broad, with a powerful rostellum bearing a double row of hooks, in the specimens I examined either 17 or 18 in each row, the larger ones measuring 0.32 to 0.42 mm. in length, and the smaller ones 0.18 to 0.28 mm. in length, bearing also four suckers at each corner, measuring 0.30 to 0.50 mm. in diameter.

I will mention here that I found also among Leidy's specimens at Washington in three samples of the liver of rats 18, 20, 26 specimens of *Cysticercus fasciolaris* respectively.

SCOLEX AND HOOKS.

The scolex or head is represented by Fig. 5. The hooks are situated upon the very crown of the head, fastened firmly in the rostellum. Each hook has a posterior root that is embedded in the rim of muscles surrounding the rostellum, and also an anterior root which is nearly as long as the pointed portion called the prong, this anterior root passing directly into the muscular tissue of the rostellum itself, and is there attached to the muscles (Figs. 2 and 3). Figs. 3 and 4 show sections through the rostellum at the very base of the roots of the hooks. The rostellum itself is more or less free upon the main supporting sheath of muscles, resting upon a cushion of elastic muscles called the polster, the rostellum being more strictly the portion in front of the suckers. This latter can be pulled in and down, or pushed out at will, the polster readily acting with it; thus the hooks resting horizontally (Fig. 5) are acted on in the manner of a lever, and when the rostellum is pulled in, the anterior root is pulled down and the projecting prong raised, and when the rostellum is pushed out the prong is lowered. By this we see how the animal holds on to the wall of the intestine. The muscles of the rostellum radiate from the centre outwards towards the periphery as described by Nitsche, and as he further described, it does not move itself, but only moves as the sheath of muscles outside and below contract or expand. The rostellum does, however, have the power of contracting its muscles centrally, to cause a slight compression. This rostellum itself is practically an elastic cushion of muscle in which the hooks work, and is in turn supported below by the polster, another ball of muscles which are radial and transverse, and consist of five layers as shown in Fig. 8. Nitsche has described the action of these.

The suckers, four in number, situated at four angles make the head appear quadrangular in shape, and are composed of powerful muscles. There are two principal layers, as shown in Fig 7.

The neck is but an elongation of the body in structure and appearance; the first segments are very minute in size, and of the total 200 or so segments, the first 100 lie within the first 4 or 5 cm. behind the scolex.

EXCRETORY SYSTEM.

The excretory system consists of four lateral canals, two on

each side, which run continuously through the body from anterior to posterior. The inner or dorsal canals are completely continuous, but the outer or ventral canals are connected at the division line between each segment by transverse canals as shown in Fig. 9, which is an ideal section drawn to show the relation of these canals with one another and with the nervous system. The four canals, dorsal and ventral, finally empty into two main trunks in the last segment and through these open to the exterior. At the anterior end is a large ring-canal (Figs. 6 and 9), which completely surrounds the polster and lies just at the base of the hooks and the rostellum. This is connected with the ventral canals on either side, and probably with the dorsal canals also, though I was unable to trace the latter to the ring-canal and be sure they were connected with it. The ventral canals, as Vogel describes, are apt to pursue a more or less serpentine or winding course just before they are joined to the ring-canal because of the shortened and contracted condition of the segments in the neck.

Blochmann and Stiles have both shown the peculiarity in the connection between the transverse and ventral canals, *i. e.*, the triangular formation produced by the dividing of the transverse canal at either end into two roots, and through the space between the roots and the ventral canal the dorsal canal passing; and I noted the same thing (Fig. 12). Both these systems give off fine capillaries that pass into the tissue and anastomose in all directions. In regard to Vogel's statement that some authors had claimed these capillaries end in ciliated cells which receive the excretions, I could see no trace of cilia, though they may nevertheless be present, but I believe that the cell tissue of the body absorbs the food and passes the excretions to the excretory system. The structure of the organs themselves is nothing but a tough, structureless cuticular membrane, which has no cell tissue at all.

NERVOUS SYSTEM.

The nervous system is very simple and consists of two nerve trunks running outside of and parallel to the excretory ducts (Fig. 9). Towards the head these swell out into somewhat larger trunks, and unite just below the rostellum in the shape of a bow. This uniting point is the nearest approach to a ganglion that there is, and from this knot branches go out to the suckers, and up to the muscles of the rostellum.

At the posterior extremity the trunks end bluntly in the tissue of the last segment. I could nowhere distinguish any nerve-cells or anything that looked like a nerve-cell in the whole nervous

tissue, it simply being a barren bundle of fibres. Nowhere did I see the trunk divided by muscles or organs, as mentioned by Vogel, but ever one continuous trunk.

MUSCLES.

The muscular system of the head, including the rostellum, is the most complex, and that has been described above.

In the body proper there are two principal systems of muscles; transverse and longitudinal. Both are situated in such a manner that they enclose the genital organs in a kind of sheath in the form of a flattened cylinder, whose cross-section is an ellipse, as shown in Fig. 11. The transverse muscles are shown in the figure in their positions, and their dorso-ventral radiations at the ends into the outside tissue. The longitudinal muscles run just exterior to the transverse, and form bands about these both of frontal and sagittal muscles, though the latter have to pass directly through the radiating transverse muscles to some extent (Fig. 11). The frontal muscles are in four, sometimes five, separate divisional bands formed one within another about the flat sides of the cylinder (Fig. 10), but the sagittal or dorso-ventral sheath is more of a compact band composed, however, of numerous smaller stripes. This latter sheath encloses and completely surrounds the nerve trunk at either end, and so lies just exterior to the excretory ducts, the latter being shown by Fig. 11 to lie just within the cylindrical sheath. Fig. 10 is taken from a longitudinal section showing the four layers of frontal muscles, and also the structure of the body wall without.

Besides this principal system of muscles is an outer system consisting of minute bands of muscles that run both longitudinally and transversely, following the cuticle layers, and just within them, completely around the whole body, shown also in Figs. 10 and 11.

GENITAL ORGANS.

The genital system is best described by a series of figures, in order to show the gradual development. First a segment five centimeters from the head shows as follows:

Fig. 13. The ovary consists here of two lateral parts and is very large, the uterus on the other hand quite small and having only one branch which is sufficient to contain the ova at this stage. The vitellogene gland is prominent, but the shell-gland is not shown, it being hidden by the ovary.

Fig. 14. Segment 11 cm. from the head. Here we note the

increasing branches of the uterus, the gradual absorption by it of the segment, the ovary becoming crowded and apparently smaller. The shell-gland is shown just below the ovary.

Fig. 15. Here the segment is 16 cm. from the head and very nearly mature. The uterus has become many branched and occupies almost the whole segment. I found these branches generally numbered 12 in the matured segments, though occasionally there appeared to be 13, on each side.

The eggs crowd the uterus of the ripe segments in countless numbers and are 0.03 mm. to 0.04 mm. in diameter. They are globular in form, and the shell or coating seems to be composed of a very thin, delicate outer shell and a more or less radiate and very thick inner shell. This inner portion appears to be of a tough membraneous structure. In perfectly ripe ova the hemispherical formed embryo of the worm may be plainly seen lying within the egg. Fig. 18 shows one of the ova very highly magnified with the cyst within. Figs. 16 and 17 show earlier stages respectively in the development.

The testes are always congregated towards the sides of the segment, and become rarer towards the centre; they are on the dorsal side of the segment always, while the female organs are on the ventral side. Figs. 13 and 14 show this.

The cell-tissues have been more or less shown in the preceding figures. The body-cells are transparent, have a nucleus about half the size of the cell, and of darker body than the cell. These are scattered all through the tissue, both central and peripheral portions. Besides these are the pointed cells of Vogel, which lie just within the cuticular layers, completely surrounding the whole animal, and point always to the exterior. Fig. 10 shows these and also the different cuticular layers pointed out by Vogel and which are the same in the adult.

Very conspicuous throughout the muscular portion of the worm are the calcareous bodies which are oval in shape and appear much like cells. Towards the anterior portion of the body, and especially near the head, these bodies are very regular in grouping, a transverse section showing two principal chains, in rows one exterior to the other, following around the body between the genital cavity and the body wall. In the posterior segments they are of much greater number, are situated indiscriminately throughout the muscular tissue, though congregating perhaps in greater degree towards the exterior, are of larger size, and show a more concentric structure, as if they had grown by concentric additions to an inner kernel.

SUPPLEMENTARY NOTE.

By C. W. Stiles.

While reading the proof of the above article at Mr. Loveland's request, I noticed that an interesting point in connection with the muscles of the neck and head has apparently escaped his attention, and so far as I recall at the present moment, has not been recorded by any author. I will therefore take the liberty of adding a short note covering the point in question, and based upon observations which I made about four years ago, but have not as yet published.

Starting with Loveland's description of the musculature of the body as noticed in the segments, we shall see, by following the various systems into the head, that a complete change in their arrangement takes place upon reaching the neck. The longitudinal muscles split up into four bundles, one dorsal and one ventral bundle of equal size, and two smaller lateral bundles of equal size; these four bundles or groups extend into the head, running between the suckers and gradually diminishing in size as the fibres insert. Hand in hand with this grouping of the longitudinal fibres, the sagittal fibres become more highly developed and the lateral groups of longitudinal fibres are each bounded medially by a layer of these sagittal fibres. A corresponding change takes place in the transverse system of muscles, the ventral fibres gradually turning ventrally at the sides of the worm, and the dorsal fibres turning dorsally. In this way we find eight systems of muscles in a transverse section just below the suckers, *i. e.* (1) a dorsal longitudinal bundle, bounded by (2) a dorsal transverse system which is convex towards the ventral surface ; (3) a corresponding ventral longitudinal bundle, bounded by (4) a ventral transverse system convex dorsally ; (5) a dextral longitudinal system bounded medially by (6) a dextral sagittal system convex sinistrad ; (7) a corresponding sinistral longitudinal bundle bounded medially by a sinistral sagittal system convex dextrad.

In connection with the presence of *T. crassicollis* in the stomach, I might add that Hassall recently examined a cat in the Bureau Zoological Laboratory, and found a specimen of this species in the stomach. Two days previously the cat, which showed signs of gastritis, had vomited a *T. crassicollis*, and upon his being brought to us dead, Hassall found five more specimens of this worm present.

Fibre zibethicus (The musk rat) may be added as a new host for the larval stage (recently found by Hassall).

Plate I.

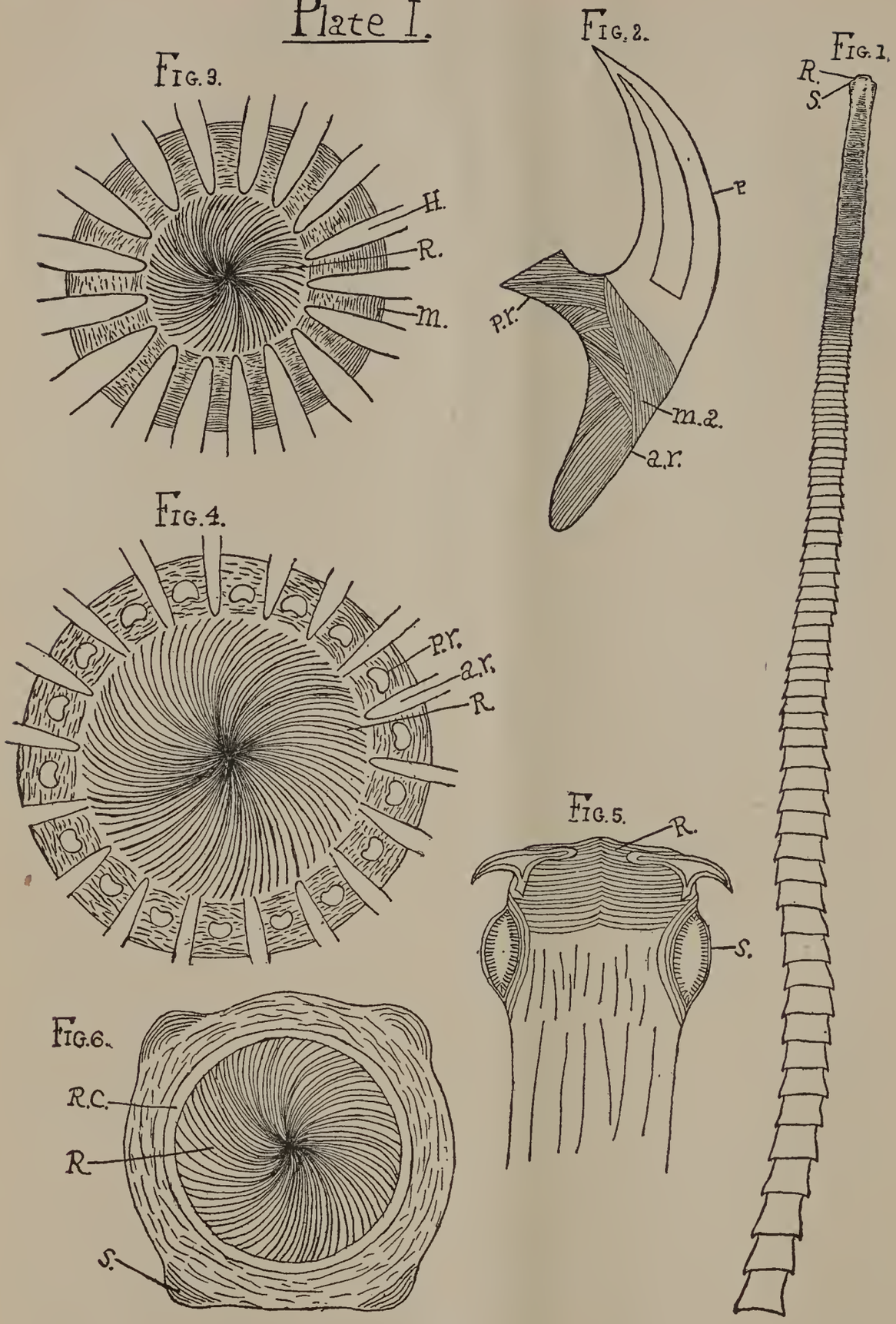

Plate I.

Fig. 1. Exterior view of worm. R, rostellum; s, sucker.

Fig. 2 One of the hooks enlarged. P, prong; p r, posterior root; a r, anterior root; m a, muscle attachment.

Fig. 3. Transverse section through upper row of hooks. H, hook; r, rostellum; m, muscle.

Fig 4. Transverse section through base of upper row, and centre of lower row of hooks. P r, posterior root of upper row; a r, anterior root of lower row; r, rostellum.

Fig. 5. Frontal section through scolex or head. R, rostellum; s, sucker.

Fig. 6. Transverse section at very near the base of the rostellum, and at the very tip of the suckers. R c, ring-canal; r, rostellum; s, sucker.

Plate II.

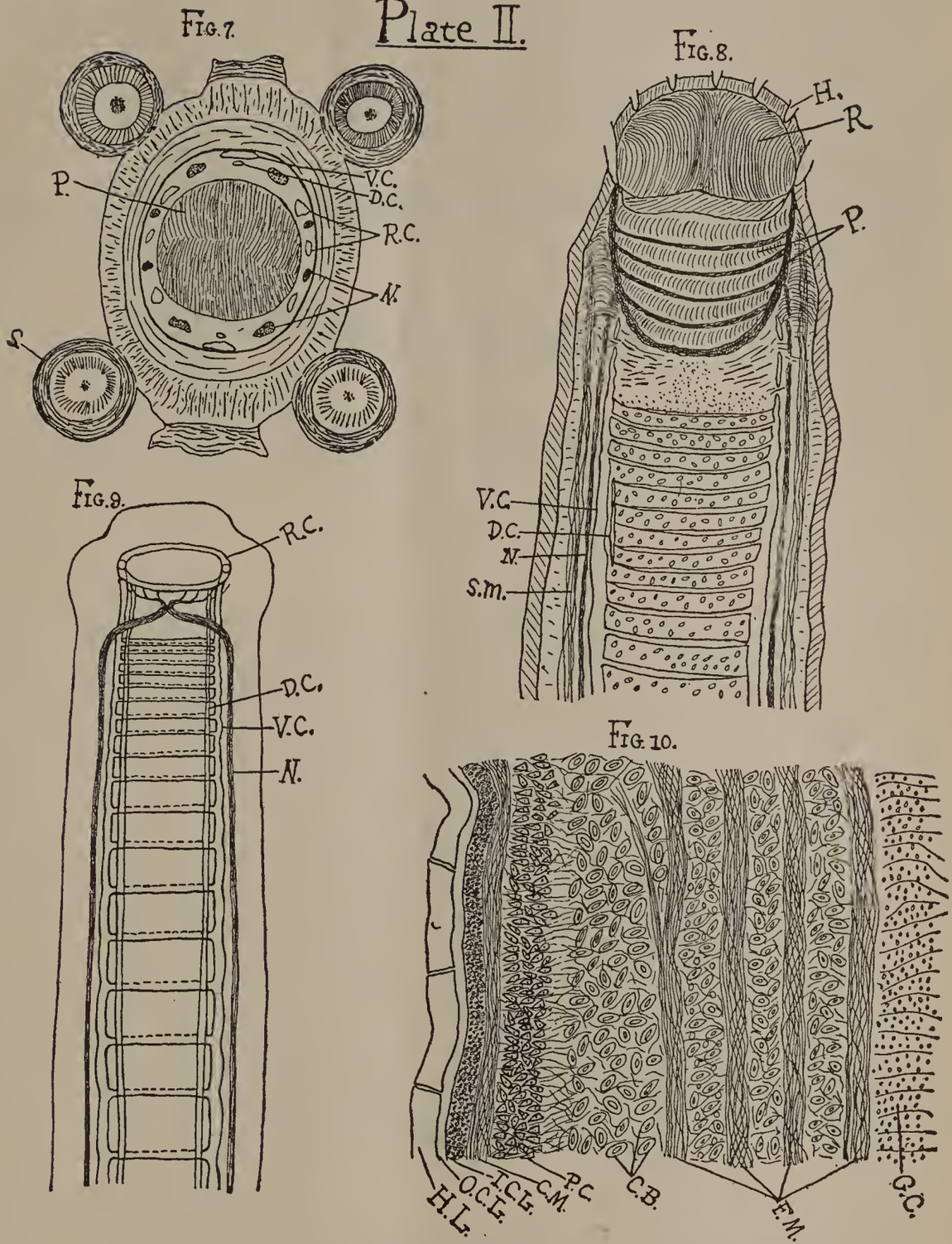

PLATE II.

Fig. 7. Transverse section about midway through suckers. V c, ventral canal; d c, dorsal canal; r c, ring-canal, only showing in spots; n, nerve chord, only showing in spots, for it is here sending up branches to the rostellum; p, polster; s, sucker.

Fig. 8. Frontal section through scolex and neck. H, hook; r, rostellum; p, polster; v c, ventral canal; d c, dorsal canal; n, nerve chord; s m, muscles.

Fig. 9. Ideal section showing relation of canals and nervous system. R c, ring canal; d c, dorsal canal; v c, ventral canal; n, nerve chord.

Fig. 10. Sagittal section through body wall about eleven centimeters from the head. H L, hyaline layer; o c l, outer cuticle layer; i c l, inner cuticle layer; c m, cuticle muscles; p c, pointed cells of Vogel; c b, calcareous bodies; f m, frontal muscles; g c, genital area.

Plate III.

Fig. 11.

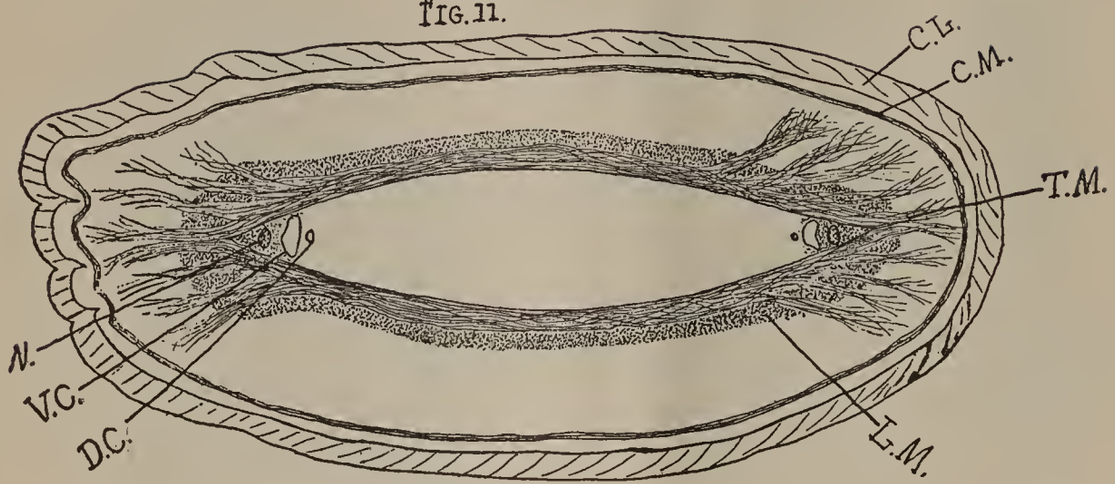

Fig. 12.

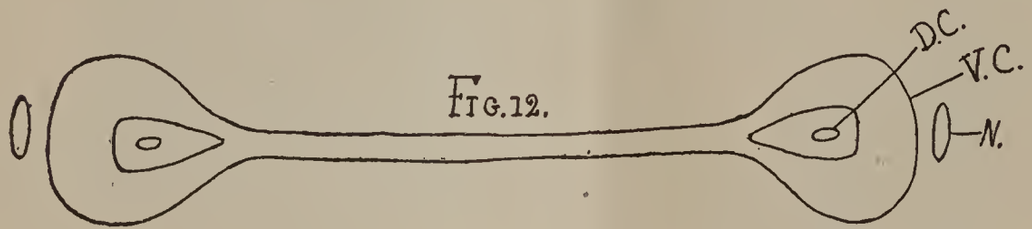

Fig. 13.

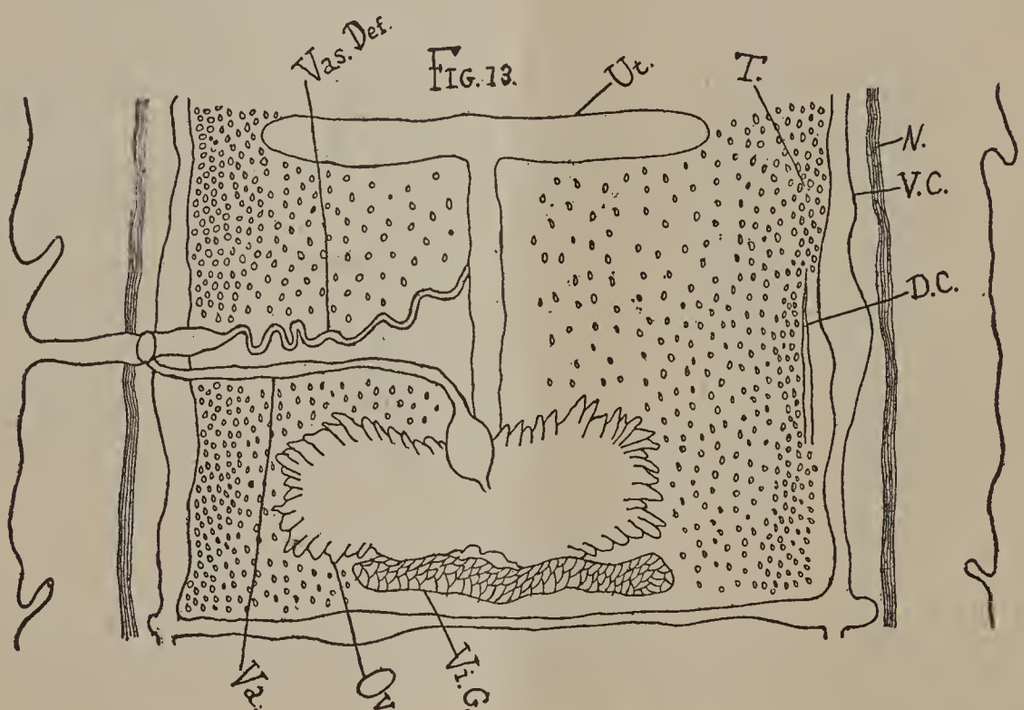

PLATE III.

Fig. 11. Transverse section about twelve centimeters from the head showing only the muscle arrangement. N, nerve chord; v c, ventral canal; d c, dorsal canal; l m, longitudinal muscles; t m, transverse muscles; c m, cuticle muscles; c l, cuticle layer.

Fig. 12. Ideal section of transverse canal. D c, dorsal canal; v c, ventral canal; n, nerve chord.

Fig. 13. Frontal section of segment 5 c.m. from the head. Vas def, vas deferens; ut, uterus; t, testes; va, vagina; ov, ovary; vi g, vitellogene gland n, nerve chord; v c, ventral canal; d c, dorsal canal.

Plate IV.

FIG. 14.

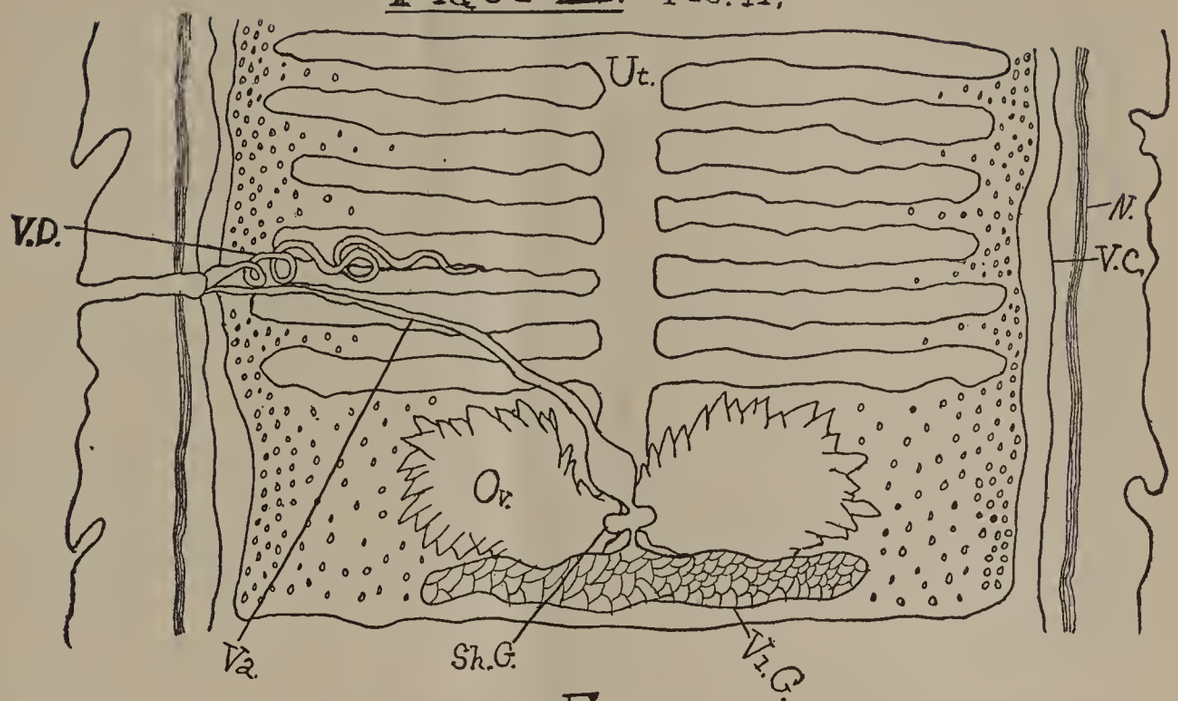

FIG. 15.

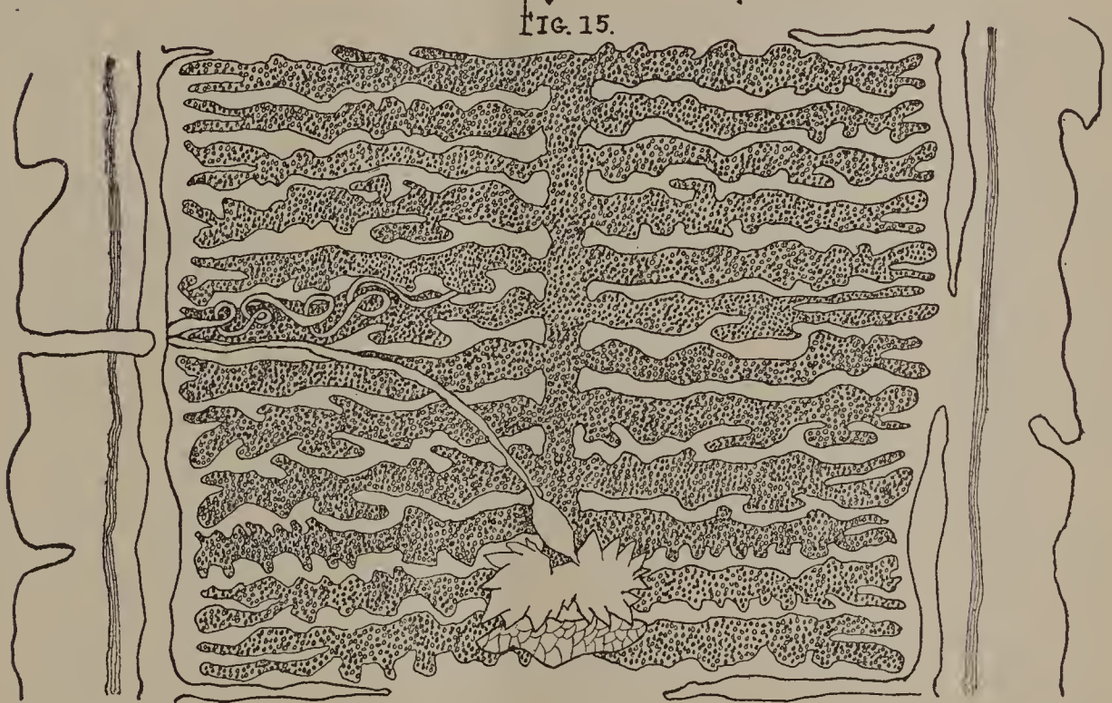

FIG. 16.

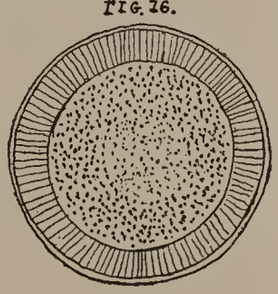

FIG. 17.

FIG. 18.

PLATE IV.

Fig. 14. Frontal section 11 c.m. from the head. Ut, uterus; v d, vas deferens; va, vagina; ov, ovary; sh g, shell-gland; vi g, vitellogene gland; v c, ventral canal; n, nerve chord.

Fig. 15. Frontal section 16 c.m. from the head. Organs the same as above.

Fig. 16. Unripe ovum.

Fig. 17. Ovum showing midway stage towards development.

Fig. 18. Ripe ovum with cyst inside.

CLINICAL DIAGNOSIS IN VETERINARY OPHTHALMOLOGY.

By L. Van Es, V.S.

Although the diseases of the eye and abnormalities of vision in the lower animals are by no means so frequent and important as in the human, we still should endeavor to be able to detect their exact nature.

Not only for proper treatment and prognosis, but also in forensic practice a proper diagnosis is of the highest value.

Before entering into details about the different diseases, a few remarks about the means and manner of examination will not be out of place.

As in all diagnostic examinations a certain systematic way should be followed, as eye and appendages are very complicated organs, and without a regular routine it is easy to overlook conditions of more or less importance.

First of all we must examine the eye with the naked eye and select a proper place to do so. Large animals we generally take in the doorway of a dark stall, the animal facing the light, while small animals may be placed upon a table, the patient also facing the light. Without touching the eye, we should see as to the conditions of the eyelids, injuries, tumors, the nature of the secretions (tears, mucus, pus, or a mixture of the three).

Having done this, proper attention is given to the size and shape of the bulb, comparing one eye with the other. In this manner conditions like bulbular atrophy (moon-blindness) and hydrophthalmus can be recognized.

The cornea should be examined very carefully and looked upon from all directions, so that we can well define the exact nature and situation of cloudiness, new growths, etc. Also the shape of the cornea must be looked upon.

The anterior chamber has to be tested as to its shape, size and contents; the aqueous humor must be clear and transparent. Pus forms a yellowish sediment in the most dependent part, and fibrinous exudates look like gray flakes, floating around in the chamber or adherent to its limiting structures. In examining the chamber we also detect the presence of anterior synechia and their extent. When the iris is normal, it must show its natural color, surface and reaction on light. In judging the color we

must, of course, not think that the non-pigmented iris of wall-eyed horses has anything to do with disease. By the presence of inflammatory exudates, the iris takes a color from yellowish to gray, and by atrophic changes the color may be bluish gray.

Tubercular deposits on the iris have been seen in bovine patients.

The size and form of the pupil is an important factor in diagnosis. In amaurosis we have a large pupil and in most diseases of the middle coat the pupil is very much contracted. Posterior synechia are manifested by an irregular form of the pupil. In inflammatory diseases of the iris the reaction on light disappears or becomes weakened and slow. In amaurosis the pupil takes its maximum size, and light does not change it ; the same condition we get after the application of a mydriatic. Of course synechia also greatly interfere with reaction on account of mechanical reasons.

The reflex from the tapetum lucidum also has a great diagnostic value, as any change in the refracting media will give rise to a change in appearance. Opacities in the lense are generally visible, but may be mistaken by the presence of images of surrounding objects; any motion of the head, however, will enable us to distinguish them.

In luxation of the crystalline lense, the iris will show a wave-like motion, and in this condition the background of the eye is sometimes visible. After seeing all we can, without touching the eye, the conjunctiva is to be examined by carefully lifting up the eyelids, and color, secretions, swelling, etc., noted. In diagnosis of inflammatory diseases of other organs, this examination is not without value.

Having the lids retracted, we take the opportunity to look after the condition of the blood-vessels of the sclerotic, as their being injected or not is of great importance in diagnosing disease of the uveal tract.

When carefully introducing a clean finger into the conjunctival sac, we are able to detect the presence of foreign bodies.

By palpitation of the eyeball we ascertain heat and the condition of the ocular tension.

In order to make an examination more minute, we can concentrate the rays of light on the parts with a convex lense or a concave mirror; this is called examination by focal illumination.

This is usually done in a dark place with artificial light, and by changing the position of the lense or mirror, light is concen-

trated on almost any part. For examination of the internal eye the ophthalmoscope is almost indispensable, although its use in our practice is as yet not so extensive as in human ophthalmology, where the exact nature of faulty refraction is diagnosed with the instrument. This, of course, can also be done in the animal eye, but our services are hardly ever required for these defects.

I will not enter into description of the instrument and the different kinds. As we all know, there are two methods of ophthalmoscopic examination, the direct and indirect. The first is done with a plain mirror and the latter with a concave one and a convex lense. The use of the plain mirror is to be recommended for veterinary practice, as in using the concave one we have to hold the lense close to the patient's eye, and this often induces him to close it. The indirect way, however, gives the advantages of a larger view; reason why this method is so much used in human ophthalmology.

In making an ophthalmoscopic examination, we generally use artificial light in a dark place, but daylight also does very well. We place the source of our light so that it does not illuminate the eye, but is easily caught by our mirror.

In using daylight we place the animal with its hind part towards a window or doorway and take care that no light comes in in front. It must be remembered that when using daylight the color of what we see through the ophthalmoscope always is lighter than when using artificial light.

Before entering into details on the different diseases, let us try and describe the ophthalmoscopic picture of a normal eye.

The first thing which strikes us when looking into a horse eye is the beautiful appearance of the tapetum, which varies in color in different animals and may be light green, yellowish-green, blue-reddish or nuances between these colors. The greenish tint is the most frequent and in this splendid colored field we find very small, dark spots which are formed by the blood-vessels of the choroid.

When looking lower down into the eye we come to line of demarcation between the tapetum lucidum and the tapetum nigrum, which has a very dark or black color.

In the tapetum nigrum, close to its edge, we notice the entrance of the optic nerve called papilla optici. It is well defined and oval in shape, the color is variable in different horses, but is chiefly composed of white, yellow or red. Blood-vessels sometimes give rise to small red spots near the centre.

Along the periphery of the papilla we notice the distributions of the *arteria centralis retinae*, which are very small and can only be traced for a small distance, especially at the lower edge of the papilla, where they are soon lost in the dark pigment.

There are many irregularities, which should not be mistaken for disease, as irregular edge of nerve head, spots, irregular line of demarcation between the tapetum lucidum and nigrum.

The best manner to avoid mistakes in that way is to examine large numbers of eyes and get familiar with the variations.

In dogs the tapetum and papilla are still more variable. The tapetum sometimes is beautiful gold-yellow, sometimes blue. The shape of the papilla varies from round to triangular and its color from light yellow to blue. The blood-vessels are large and can be followed all over the ophthalmoscopic field.

In the bovine the papilla is rather small, but the vessels are large and plainly visible. Prof. Möller suggests that in tuberculous cows the ophthalmoscopic examination may have some diagnostic value.

Sometimes it is advisable to dilate the pupil with atropia in order to get a larger view.

As diseases of the appendages of the eye very often have a certain degree of influence on the organ itself, we will mention a few of the most common pathological conditions of them.

Disease of the eyelids is uncommon, and if present a proper diagnosis will not be difficult to make. Wounds of the lids are generally of a lacerated nature, most frequent on the upper one. In the larger animals wounds are uncommon, but occasionally they are seen in dogs, often on account of being too familiar with their feline friends. In wounds of this nature we must see if the injury does not extend to the bulbus, which is often the case.

Blepharitis or inflammation of the eyelids is seen after blows or when the lid becomes involved in certain skin diseases. (Dogs).

It also can occur as an extension of a severe conjunctivitis. The trouble is recognized by the presence of increased heat and swelling, this sometimes to such an extent that the eye cannot be opened, and occasionally abscess formation is the result. The conditions known as ectropium and entropium is almost only seen in dogs, some breeds having a great tendency.

In ectropium the lid is turned outward, thus exposing the conjunctiva to the air with its impurities, which gives rise to a chronic conjunctivitis; it is mostly seen affecting the lower lid.

The opposite condition, known as entropium, most generally

affects the upper lid. The lids will constantly be closed, profuse lachrymation, conjunctivitis, and by the irritation of the cornea, by the lashes sometimes, also keratitis.

The membrana nictitans often is the seat of disease. Conjunctivitis is liable to extend to this membrane, while injuries and new growths are not uncommon. Their diagnosis does not offer any difficulties. The condition known as "hooks" is a prolapse of the third eyelid.

Rarely we have to deal with disease or injury of the lachrymal apparatus, but as cases are on record we will mention the principal ones. When conjunctivitis extends over the mucous membrane, lining the lachrymal sac, it may give rise to a condition known as dacryocystitis. This is manifested by a fluctuating swelling over the region of the sac and by a muco-purulent discharge from the nasal canthus of the eye, caused by closure of the lachrymal canal. Pressing upward on the swelling, a discharge escapes from the puncta lachrymalia.

By breaking externally, dacryocystitis may give rise to a lachrymal fistula, which also may be caused by injury, but is very uncommon. The lachrymal canal can be obstructed by foreign bodies and by inflammatory processes, especially in connection with a chronic catarrh of nasal cavity and sinusses. There is a flow of tears, often mixed with pus, from the inner canthus. When we try to inject water through the canal we soon find out that the duct is obstructed.

Taking in consideration the structure and situation of the conjunctiva, it is not to be wondered at that conjunctivitis is one of the most frequent ocular diseases in the lower animals.

There are a number of distinct forms of conjunctivitis, which should be dealt with separately, as treatment is somewhat different. The simple inflammation (conjunctivitis catarrhalis) is generally caused by mechanical or chemical irritation, or is seen along with infectious diseases.

Redness of the conjunctiva and photophobia are about the first symptoms, and in more severe cases the lachrymation becomes profuse, the tears sometimes being mixed with pus and mucus. Frequently the inflammation extends over the cornea, which is recognized by a bluish color. It generally affects both eyes, except when due to a foreign body. In simple conjunctivitis the more superficial parts of the conjunctiva are affected.

When the deeper layers also become inflamed we speak of a conjunctivitis parenchymatosa. Along with the above mentioned

symptoms we have a certain degree of swelling, on account of submucous exudates. These are often of a hæmorrhagic nature, due to severe injury, and give the parts an œdematous appearance. As a rule conjunctivitis is not accompanied by much pus formation, but in dogs and cattle a purulent form is sometimes seen in relation with corneal abscess. The lids are often found glued together, and there is a certain degree of itching, as the patients frequently rub and scratch the sore eyes. It must be looked upon as a serious condition, and along with keratitis it sometimes causes perforation of the cornea.

Under the name of conjunctivitis follicularis, Fröhner describes a form which, according to him, is very frequent in dogs. It is a chronic form and is characterized by a number of enlarged lymph-follicles, generally found on the inner side of the membrana nictitans, which often has the appearance of a granulating surface.

The diagnosis of disease or injury in the cornea is not very difficult. Wounds to the cornea are generally followed by photophobia and a profuse flow of tears. The extent of the injury should be carefully examined, by which the focal illumination has a great value. Around the wound we always notice a certain degree of cloudiness.

By perforation of the cornea, the aqueous humor will escape and the eye collapse. In some cases the iris will be forced against the corneal wound and act as a valve, a condition which may give rise to anterior synechia. If the wound is large the iris will sometimes prolapse. The perforation may be only partial and reach as far as the membrane of Descemet, which, with the aqueous humor behind it, often bulges through the external opening. In such a case we speak of a keratocele.

Keratitis or inflammation of the cornea is clinically to be divided in keratitis superficialis and keratitis profunda.

Keratitis superficialis generally follows conjunctivitis and is characterized by a diffuse opacity all over the corneal surface, which often has an uneven appearance on account of the extensive proliferation of epithelial cells. The color of the cornea varies from grayish blue to white; the whiter it is, the thicker the exudate. When the inflammation has lasted a certain length of time, small blood-vessels are seen penetrating the cornea along its margin.

In keratitis profunda, we have the inflammatory exudate within the corneal structure, in which it appears like gray or white

spots. These will sometimes look like clouds, other times like streaks. Some writers describe a form in which we have several opaque spots with a lighter zone around it; this form is called keratitis punctata.

In very severe cases corneal abscess may be formed, which is recognized by its yellow color. This may result in a perforation, or when it breaks into the anterior chamber give rise to a condition known as hypopyon.

In both forms of keratitis we have, of course, the usual indications of irritation, as photophobia, lachrymation, etc.

Some four or five years ago, I witnessed in this State (Nebraska) an infectious eye disease among cattle, which has been designated as a keratitis infectiosa. I had occasion to watch it in a herd of dairy cows and in a number of calves.

The first symptoms were those of irritation, and in a few individuals lactation was considerably diminished. Among the little calves, I noticed some lose their usual appetite. Shortly after this the cornea became opaque and the conjunctivitis took a purulent nature. Abscess in the cornea was by no means uncommon, and several animals had their eyes destroyed by a purulent panophthalmitis, especially among the calves, of which a couple died in a cachexic condition. Some animals suffered only to a slight extent, and after a few days of impaired vision were all right again, but not a single one escaped the disease. Abscess in the cornea is sometimes followed by ulceration. In dogs, however, ulcerations are liable to follow distemper, and are seen in the intact cornea. It first appears like a small abrasion of the epithelial layer, but it very rapidly extends deeper and has the appearance of a small hole bored with a drill. The sides are straight down and the bottom is rough and gray colored. When the ulcer reaches the layer of Descemet, the fundus takes a bulging shape; there always is an extreme irritation. When the ulcer does not terminate in perforation it heals by granulation. and ultimately a cicatrix is formed, which often gives rise to a change in form of the eye. Pigmentary deposits in the corneal substance occur as a result of bleeding from the granulations. Under staphyloma we understand an abnormal projection of the cornea. The condition is not hard to be recognized, as the projection generally is very prominent, and sometimes conical in shape. Conditions like new growths or maculæ do not offer any difficulty in diagnosis, so we will not enter into details about them.

By its structure and anatomical situation the sclerotic coat is

fairly well protected against external injuries and inflammatory processes. Wounds in that portion of the eye are very uncommon, and inflammation only seems to take place with panophthalmitis.

Of great importance for the veterinarian are the diseases of the middle coat of the eye, also called the uveal tract.

This coat, composed of the iris, ciliary bodies and choroid, is extremely vascular, and for this reason naturally predisposed to disease. Inflammation of the uveal tract can bring about very destructive changes in the tissue itself, but often also involves the lense, vitrous and retina. Inflammation of the iris (Iritis simplex) has an acute nature, as long as it does not involve the ciliary bodies and choroid, which sometimes is the case. There is a well marked injection of the sclerotic blood-vessels and rarely the cornea is clouded. The iris itself takes a gray color and fibrinous exudates are seen adherent to it or float around in the anterior chamber. The pupil is contracted, and reaction on light is slow and weak, while frequently there is formation of posterior synechia.

Along with conjunctivitis, iritis is seen in certain infectious diseases, and Möller says that in these cases there is a great tendency to hæmorrhagic extravasations.

The iris is sometimes involved in puncture of the cornea, in which case we speak of an iritis traumatica, a condition easy to be overlooked on account of the opaque cornea and extreme photophobia.

Closure of the pupil can be brought about by complete posterior synechia, and also by an over-development of the corpora nigra. Coloboma is the absence of a portion of the iris, and is the result of faults in the fœtal development, or of iridektomy.

Along with iritis, there may be present cyclitis or inflammation of the ciliary bodies, which can also take place without involving the iris. In such a case we have the injection of the sclerotic vessels, pain and photophobia, while there is a marked bulging of the iris in the ciliary region.

Chorioiditis is never seen apart from periodic ophthalmia, of which we now will study the symptoms.

Periodic ophthalmia is of the greatest importance to the veterinarian, as he is often called in to decide if a horse has moon-blindness or not. The disease being of a recurrent nature, we have to be able to recognize the trouble during the acute attacks and in the intervals between them.

Let us see now what are the symptoms during the acute stage. There is a sudden manifestation of photophobia and profuse lachrymation. The seat of the disease principally being the uveal tract, the peri corneal injection is very well marked.

The conjunctiva is red, swollen, and along the periphery of the cornea there is a diffuse cloudiness, which gradually extends towards the centre till the transparency is almost entirely lost.

When the attack has lasted a certain time we notice small blood-vessels penetrating the cornea along its margin.

In cases where the transparency is not much interfered with we will find the iris rough on its surface and sometimes covered with an exudate. The pupil is much contracted and the reaction on light slow. The anterior chamber often is partly or entirely filled with an exudate, that appears to be pus, judging by its yellow color. The reflex from the tapetum is dark green, without any lustrum. Synechia are often present, and sometimes we are able to detect certain forms of cataract.

On palpitation we find the bulbus oculi generally very hard, as long as the disease has not caused bulbular atrophy.

With the aid of the ophthalmoscope, opacities in the vitrous are often seen in the earlier stages of the disease.

The acute attacks last from six to fourteen days, after which the eye may be all right to the casual observer. Often certain changes remain visible, like synechia, pigmentary deposits on the lense capsule, light color of the iris, green reflex from the pupil. Other changes can be seen with the ophthalmoscope, as opacities of the vitrous humor, cataract and detachments of the retina; when the pupil is dilated with atropia, it may be possible to detect them with the naked eye.

After the disease has made a certain amount of progress the bulb becomes atrophied, and is retracted in the orbit, thus giving rise to the wrinkled appearance of the upper lid, which is quite diagnostic. The recurrent nature of the attack is also a great help in diagnosis.

When examining between the attacks, the presence of cataract, opacities in the vitrous, or solution of the retina can, as a rule, be looked upon as resulting from periodic ophthalmia, and for this reason we will now describe their appearances.

When a cataract is complete it appears in the pupil as a gray or white spot, and offers no difficulty in detection. When it is less developed a more careful examination is necessary ; the eye must be looked upon from different directions, and we have to watch

that we do not mistake images of surrounding objects for opacities.

When examining by focal illumination the cataract is plainer seen, and when paying attention to the Purkinje-Sanson images, we can distinguish cataract from opacities in the vitrous.

The use of the ophthalmoscope is only indicated when the opacities are very small; they appear like black spots, caused by the fact that their being non-transparent hinders the light from being thrown on the retina.

From a clinical standpoint, it matters not what kind of cataract we have to deal with. Along with opacities in the vitrous we often find this humor liquified, which gives rise to the floating appearance of the opacities. When illuminating the eye properly we see them as gray spots, intercepting the reflex from the tapetum. When the opacity is diffuse it gives rise to an equal, dull green color.

To recognize detachments of the retina we generally have to use the ophthalmoscope. The retina has a gray or green appearance, and when the head is moved it often takes a wavy motion, while we sometimes can see folds in it. It is very hard sometimes to distinguish this condition from opacities in the vitrous. It is rarely that the trouble can be properly diagnosed, as opacities in the refracting media generally prevent us from doing so. Disease of the retina and optic nerve is not very liable to a successful treatment, but to make a reliable prognosis a correct diagnosis is indispensable.

In retinitis we have a contracted pupil, lachrymation, photophobia, while vision is much impaired.

When making an ophthalmoscopic examination we find the blood-vessels of the retina much engorged, and they seem to be more tortuous in their course. The retina is redder than usual, and when the disease has made some progress white spots or streaks can be seen.

Sometimes we also find the papilla involved in the inflammation, in which case we speak of neuroretinitis. The papilla is hyperæmic and swollen, having the same red color as the retina. When this condition lasts, it gives rise to atrophy of the papilla, owing to the interfered nutrition.

Opacities of the vitrous may be present, although to a lesser extent, as in inflammatory processes in the uveal tract.

Inflammatory disease in the orbit or in the cranial vault can be continued on the optic nerve (neuritis retrobulbularis). In such

a case, we find vision very much interfered with, but there is not much photophobia or lachrymation, and the papilla is found to be engorged, while the retina generally is normal.

An atrophied papilla in the horse is white, very small, rounded as when normal the blood-vessels are very small and lesser in number.

When for any reason the opticus or its expansion, the retina, ceases to do its function we speak of amaurosis.

This is manifested by perfect blindness in the affected eye (sometimes on both). We find the pupil dilated to its maximum, while irritations, by means of strong light, have no influence. The reflex from the pupil is dark or dark blue.

Examination with the ophthalmoscope generally is without any results, and the great ophthalmologist, Beer, was very true in his statement, when he said that in amaurosis the doctor sees just as little as the patient.

Hæmorrhages in the retina are seen through the ophthalmoscope as dark red spots or streaks, and when severe this color is equally distributed all over the ophthalmoscopic field. Glaucoma is an ocular disease, which is only very rarely met with in veterinary practice. It has only been seen in dogs, and, as far as I can learn, it has never been observed in the horse.

There is an extreme hardness of the bulb, on account of increased intra-ocular pressure; the cornea may be slightly opaque, dim, and sometimes is in an anaesthetic condition. The iris is often found pressed against the cornea, while the pupil is dilated, the reflex being greenish in color.

The most diagnostic symptom however, is seen with the ophthalmoscope, in the form of a marked excavation of the optic papilla, caused by the great intra-ocular tension. The bottom of the excavation is seen by using a weak convex lense with the ophthalmoscope. As hydrophthalmus, a disease is known, manifested by an increased size of the bulb, due to an abnormal quantity of aqueous humor. The cornea generally is opaque, and becomes thin as a result of atrophic changes, due to pressure. There is danger of rupture and escape of the eye contents.

By panophthalmitis we understand a purulent inflammation, in which all the structures are involved. It generally is the result of punctured wounds or of pyæmia, resulting in embolism of the choroid vessels. The extreme inflammation along with profuse pus formation are always diagnostic.

There are certain parasites found in the eye; the irritation

caused by their presence leads to a more minute examination, by which they are easily found.

Diseased conditions of the eye often coexist, which sometimes is rather confusing during examination, but generally there is no trouble in recognizing the exact condition. We always have to use a good deal of judgment in making our diagnosis.

COLUMBUS, NEBRASKA, December, 1893.

UNSUSPECTED POISONING BY STERILIZED MEAT AND MILK OF TUBERCULOUS ANIMALS.*

BY JAMES LAW, F.R.C.V.S., Cornell University, Ithaca, N. Y.

With an unaccountable shortness of vision, medical and veterinary sanitarians alike have never, up to the present hour, looked beyond infection by the tubercle bacillus in estimating the dangers to man of tuberculosis in our flocks and herds. We find, accordingly, that the question kept continually before the public is that of the presence or absence of the tubercle bacillus in any food product—meat, milk, butter or cheese—furnished by the diseased or suspected animal. The question of the presence or absence of ptomaines or other toxic elements which are calculated to prove hurtful, or even fatal, to certain members of the human race is not for a moment considered.

Hence we are met by the most elaborate arguments that tubercle is rare in the muscular system of cattle, and that muscle juice is inimical to the bacillus, and that therefore the muscular tissue, which forms the great mass of the dressed carcass, may, as a rule, be safely eaten, even though the internal organs have been affected by tubercle.

In Germany and other European countries the flesh of animals in which the tubercles are found in only one organ, or two related ones, is passed as wholesome. It is only when the tubercles are found in the bones, or muscles, or in the lymphatic glands among these, or, finally, when the tubercles are so generally distributed in different parts of the body that it is evident that the bacilli must have been carried by the blood, that the meat is rejected as unfit for human food.

*Paper presented at the Fourth Annual Meeting of the New York State Veterinary Medical Society.

So with milk and other dairy products. Many claim with Nocard that the milk is quite harmless so long as the udder is quite free from tubercle, and that it is only when tubercle is unmistakably present in that gland that this secretion is to be dreaded.

Even apart from these discussions as to the wholesomeness of flesh and milk, it is safe to say that up to the present every writer on the subject holds that even tuberculous meat and milk is rendered absolutely harmless by cooking. The consensus of professional opinion on this subject is tersely given by Salmon and Smith in their article on "Tuberculosis," in the work on "Diseases of Cattle," published by the Bureau of Animal Industry—"Fortunately, tubercle bacilli are readily destroyed by the temperature of boiling water, and hence both meat and milk are made entirely safe, the former by the various processes of cooking, and the latter by boiling for a few minutes."

But this is altogether too narrow a view to take of the subject, and it is liable to lead to most serious and fatal results if put into every-day practice. The professional mind in concentrating its attention on *tubercular infection*, has practically entirely overlooked the no less real, and in many cases no less dangerous, fact of *tuberculous poisoning*.

To elucidate this matter, let us consider that much of the toxic matter produced by the growth of the tubercle bacillus is retained in Koch's "tuberculin," which has been absolutely sterilized. What then is the action of "tuberculin" on the animal system? A constitutional disorder with elevation of the body temperature commonly known as fever, and impairment of most of the bodily functions, notably those of assimilation and secretion. This is abundantly manifested in the wasting and fever of the victim of acute tuberculosis, in whom these poisonous principles are being constantly produced in large quantities. As the dose is reduced, a point is finally reached at which no fever nor appreciable systemic disturbance is produced, and thus in many slight and indolent cases of tuberculosis the animal appears well, and thus also the usual test dose of "tuberculin" has no recognizable disturbing effect on the healthy animal system. With a dose less than this it may even be questioned whether it may not be actually beneficial in conferring upon the healthy system a small measure of tolerance and power of resistance to the bacillus and its poisons. This, however, is of little account, seeing that no real immunity from tuberculosis is ever acquired. In many

systems, both human and brute, the disease continues its slow progress for years, and the slight tolerance that results, though it may suppress the disease so that it assumes and indolent and chronic form, does not fully arrest it.

Very different is the effect of even a minimum dose of "tuberculin" on a subject which is already attacked with tuberculosis. In such a case the products of the existing tubercle are often so small in amount, and the system has acquired such a tolerance of them, that there is no manifest disturbance of health, and the animal may even be in excellent condition. But add to this minimum amount of poison, already in the system, a small quantity of "tuberculin," and in ten or fifteen hours the temperature of the patient's body will rise two or more degrees above the normal, and the destructive process going on in the seats of the tubercles will be accelerated. In cattle this is now used as a most valuable test of the presence or absence of occult tubercle. In horses and other animals, the subjects of tuberculosis, "tuberculin" causes the same rise of temperature, and it may be accepted as a rule applicable to all classes of animals.

In the tuberculous man this action of "tuberculin" is a well established fact and was made the basis of Koch's employment of this material as a curative agent. The daily use of "tuberculin" in cases of lupus and other superficial forms of tuberculosis led to a more active congestion and a molecular death of the tissues of the local tubercle, until these were separated from the living, healthy parts, and the progress of tuberculosis in that focus was arrested. If there were no deeper, unseen tubercles left in the system a real cure might be effected in this way. But the cure in such a case was only secured by a temporary aggravation of the disease in its primary focus. If other tubercles existed in internal organs, they too had the morbid process aggravated and extended, and the death of tissue increased, by the introduction of "tuberculin" from without. In such a case the increased mass of tubercle, dead and living, remained confined in the midst of the surrounding tissues, and as the infecting materials could not be separated and cast off from the body, they continued their ravages with an increasing force proportionate to their recent artificial extension.

It is this extension of the tuberculosis under the influence of the toxic products of the bacillus which raises the most important question in connection with the consumption by man of the flesh and dairy products of tuberculous animals, and yet this question

has been overlooked by sanitarians in the most unaccountable way. It has seemed enough for them that the living tubercle bacillus did not exist in the juices of the muscles nor in the milk. It seems never to have occurred to them that all the soluble toxic products of this bacillus were constantly circulating in the blood passing through the muscles, and that they equally traversed the blood-vessels of the mammary glands and escaped into the milk. No pathologist can for a moment doubt this general diffusion of these toxic products.

Accepting this as undeniable, the presence of these toxins in the blood, flesh and milk, it follows that those who eat this meat and milk are taking in continually small doses of "tuberculin," and in case they are already the subjects of tuberculosis, in however slight a degree or however indolent a form, this continuous accession of the poison will rouse this morbid process into a greater activity and a more dangerous extension.

If now we consider the prevalence of tuberculosis in the human population, and realize that every eighth death is that of a tuberculous person, we see what a fearful risk is being run by the utilization of the meat and milk of tuberculous animals, even if it could be shown that such meat and milk are themselves free from the living bacillus. Such reckless consumption of the products of tuberculous animals can only be looked on as a direct means of sealing the fate of that large proportion of the community which is already slightly attacked with tuberculosis.

The claim that the canning of tuberculous carcasses and the boiling or Pasteurizing of milk does away with every element of danger, can no longer be entertained. Sterilization is not a restoration to a non-toxic condition; it does away with the possibility of infection, it is true, but it does not render the product innocuous.

As a matter of fact "tuberculin" has been sterilized by heat, but such sterilization has not rendered it safe and harmless. On the contrary it invariably intensifies any existing tuberculous process, and develops fever and constitutional disturbance. When "tuberculin," therefore, is present in the meat and milk, it can only cause these to operate in the same way on subjects that have been already infected. In my experience with tuberculous cows, cases have come to my knowledge in which invalids, drinking the milk of such animals, have suffered very obviously and have improved after such milk was withheld. So, too, in the case of calves sucking phthisical cows; they have done badly and proved unthrifty, though they took the whole of the milk fur-

nished by their respective nurses, and they throve better when weaned and put upon solid food alone. I have followed some such calves until they grew up and were slaughtered and have made post-mortem examinations and found them bearing old calcified tubercles, pointing back to the time when they sucked the infected and poisonous milk.

It is idle to say that such milk was merely lacking in nutritive principles; the calves in question had access to other food while following their nurses, and would not have been harmed by taking the same amount of pure water as they did of milk. Apart from the bacilli, which operated slowly and which allowed these animals to live for years and even to thrive after they had ceased taking the milk, there was unquestionably in the milk a definite poison which undermined the health and stimulated the progress of the tuberculous process.

It may be safely held, as proved by analogy, observation and experiment, that the soluble poisons of tuberculosis invariably operate by exaggerating any existing tuberculous process, and that blood and all animal fluids becoming charged with such poisons always tend to further endanger the health, or even the life, of any person who may consume them while suffering from tuberculosis.

We may freely allow that the transmission of the bacillus from man to man is far more common than from beast to man. But though the implanted seed may have been in many cases derived from a fellow-man, its subsequent destructive progress may be due far more to the constant accessions of the soluble toxic products conveyed in the meat and milk of tuberculous animals. Without these constant doses of the soluble poisons of tubercle the implanted germ would in many cases have proved comparatively harmless. Although it could be proved in regard to many cases that the cow had not contributed the seed of the disease, she is left little less responsible for the destructive progress and fatal result. The germ which might have remained comparatively dormant and harmless in the absence of the poisoned meat and milk, is by these stimulated to a more deadly energy.

This hitherto unchallenged factor in the progress of tuberculosis opens up new and uncultivated fields for sanitary work. The great evil ventilated in this paper cannot be effectually met without the eradication of tuberculosis from every herd kept for supply of meat products for the public. Nothing short of this can be trusted to operate satisfactorily in putting a check upon the present fearful mortality from this disease. No inspection of

dressed carcasses, nor of milk, butter and cheese will furnish a guarantee. We must go to the herds and subject them, animal by animal, to a critical test and only accept the products as safe when there is no longer a shadow of suspicion remaining.

A professional examination of the most searching kind must be supplemented by the tuberculin test before a clean bill of health can be furnished. In my own experience on cattle two-thirds of the cases of tuberculosis sometimes escaped under the most critical professional examination, and were detected later by the tuberculin test. Often when cattle were condemned by the "tuberculin" test, have the owners pronounced them the most thrifty and the least suspected in the herd, and it was only after death, when the animals were opened and the caseated tubercle exposed, that they were satisfied that no mistake had been made. Recently in a herd kept for the supply of high-priced milk of guaranteed soundness, the stock having been subjected to weekly examinations by a veterinarian, the "tuberculin" test was applied and 50 per cent. of the herd demonstrated to be tuberculous. Without the "tuberculin" test there is no guarantee possible for the products of the dairy, and the sanitary officers who will affect to deal with this disease in herds without the aid of "tuberculin" are at best but pruning the tips of the branches of the evil tree. Public money ought not to be thrown away on such fruitless and ineffective work. The purification of a herd must be followed in every case by a thorough disinfection of contaminated buildings and places, and by a careful seclusion from new sources of infection. It is evident, therefore, that the non-tuberculous herd must be secured against the addition of fresh animals from any herd that has not been similarly attested sound, and that any necessary addition from another source must be tested by "tuberculin" before it is added to the herd. Equally important is it to test all farm animals of whatever species that live on the place and cohabit with the herd, and to see to it that no human being suffering from tuberculosis is allowed to attend to the animals or to prepare their food. It is difficult to see how anything short of a system can afford any guarantee of the absence of the soluble tubercle poisons from our milk, butter and cheese.

In the case of butcher meats a professional examination when slaughtered, covering all of the viscera as well as the carcass, will be essential, and the current doctrine of sound meat with localized tuberculosis must be abandoned. Every municipality must have its own public abattoir, in which alone its meat supplies should be

butchered and where every carcass should be systematically examined as it is opened. Private slaughter houses controlled by individual owners afford endless opportunities for the evasion of sanitary statutes and ought to be abandoned as relics of an age when modern sanitary science was unknown.

The question of dressed, canned and salted meats is one that must be carefully considered. It is quite evident that such products must come to us with a sufficient guarantee if allowed to compete with our home meats that have passed the municipal inspection. It is equally evident that no inspector, paid by the packer or canner, can furnish a certificate which will command public confidence. The inspector must be a government official who is entirely independent of the packers and whose position is in no way dependent on their good will. Then again the existing method of furnishing Government inspectors at our great packing centres only and thus giving a monopoly to the larger operators, cannot be long maintained in a country of equal rights and privileges. The most obvious cure for this evil is to make all packing establishments Government institutions, where the small packer shall have equal privileges with the large, and where all carcasses shall be subjected to the same scrutiny and shall go out with the same guarantee.

Such a proposition as the above will doubtless be severely criticised, both from the medical and economic standpoint.

On the medical side it will be argued that if the toxins in the meat and milk were as injurious as represented, we would see the evil results on every side and that medical men would be universally cognizant of them. And yet do we not see clearly to day much that was never suspected twenty, thirty, or fifty years ago? How recent is the acceptance by the profession of the doctrine of contagion in tuberculosis, in tetanus, in pneumonia, in influenza, in glanders, etc. Are we to suppose that our forefathers were surrounded with fewer evidences of contagion, at a time when no precautions were taken to prevent it, than we are with all the antiseptic and antizymodic provisions of the present day? The facts of contagion were doubtless more abundant in their than in these days, but their attention had never been drawn to them. So now let the attention of physicians and sanitarians be given to the morbid action of the soluble poisons of tubercle, and evidence of its evil will accumulate on all sides. It is the scrutiny and not the facts that are wanting.

The economist will object to drastic measures for the sup-

pression of tuberculosis on the ground of expense. Who is to pay for the municipal abattoirs, the inspectorships, the disinfections and the indemnities for slaughtered animals and condemned carcasses? In return let us ask who now pays for the constant losses of live stock which the proposed system would put a stop to; for the frequent infection of sound herds by unfortunate purchases of animals that prove to be tuberculous; for the losses to the nation, the community and the family of the tuberculous one-eighth of all deaths; for the loss of work, literary, scientific, manufacturing, commercial, domestic and manual, of the great host of consumptives waiting all over the land to fill the places of this fatal eighth in coming mortality statistics; for the losses represented by the bills of the physician, nurse and druggist for these invalids; and for the losses represented by the many migrations and exiles in search of health, and of the costly consumption hospitals and sanitaria? And who is to pay in the future for the endless harvest of similar fruits which the seeds, now sown through our supineness, must inevitably produce in the coming generations?

Is it not a truer economy to destroy this seed before it has germinated, or even before it has been sown, than to wait for the multitudinous evils that must attend on its growth and fructification?

Our State Board of Health which has charge of tuberculosis, not in man only, but in cattle and other animals as well, should take this matter up earnestly. A year ago this Board was very apprehensive of evil results from the use of "tuberculin" as a means of diagnosis and only reluctantly allowed me to use the agent in examinations I made for it on condition I would personally bear the full responsibility for all untoward results. This I could afford to do, being well assured from past experience how trustworthy this agent is and how impossible it is to speedily eradicate tuberculosis from a herd without its aid.

Now that our excellent Board has reached a similar confidence, let me urge it to go a step farther, to accept the logical deduction of their present position, the presence, namely, of the toxic products in both meat and milk of the tuberculous animal and the pathogenic action of these on the tuberculous human consumer. Let our Health Board urge on the Legislature the necessity of providing means for the purification of our dairy herds and municipal abattoirs where all meats and animals for slaughter will be scrutinized by professional Government inspectors.

PROFESSIONAL ETIQUETTE.*

By Claude D. Morris, Veterinary Surgeon.

In presenting a paper on the subject named, I must remind you that I find difficulties of no common character surrounding me at every point. Let me beg of you, therefore, to bear with me, should you consider my paper not sufficiently characteristic for so worthy a title. You may well ask, should not a gentleman of years of practice and extensive observation be better prepared to expound the principles which govern this subject, than one who has labored but a few years in so broad a field of usefulness?

However, feeling that I should not compromise with the subject or plead entire incapability, therefore we can speak in a certain degree from experience and observation.

In the struggle for maintenance and superiority in this life, it is as necessary that a professional man should possess tact and business sagacity, as it is that a ship should have a rudder. There are gentlemen in the ranks of our profession who are thoroughly acquainted with the scientific aspects of medicine; they can tell you in an alert way what to do for almost every disease incident to the lower animals; yet, after earnest endeavor, have failed to achieve reputation and acquire a practice commensurate to their ability, simply because they lack professional tact and business sagacity that would make their other qualities successful.

Again, there are men in the profession who are thoroughly qualified to practice and teach the tenets of the profession, but who are as thoroughly unscrupulous in their social and commercial relations as though they possessed no professional ability, and were but mere serfs. This latter class are the dangerous elements in the profession, possessing, as some of them do, alert and witty minds, with ready expressions to explain technical and scientific terms relating to medicine and treatment, readily comprehending and speaking with seeming knowledge the mysteries of pathology. This to a credulous world is looked upon as being smart; no doubt we can all of us call to mind living examples of these two classes that we have spoken of. These two classes can never be a success from a professional standpoint. The first lacks diplomacy, the other moral training, and in this day of enlightened civilization a man devoid of these elements, it were better had he not been born.

The corner-stone upon which to build a successful professional

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life is manhood, the attributes of which are, the cultivation of whatever is true, whatever is just, and whatever is pure; found your expectations of success on these qualities and we will possess a personal and a scientific qualification. In the first place professional life is interwoven and environed with all classes of men; each profession has its sage and fool, its learned and highly cultured, its ignorant and rude. Classified as to vocation in the United States, the legal profession stand at the head, following close behind comes the medical; but when classified as to science, the medical is the guiding star of the century, outshining all others in the constellation of science. In the veterinary profession what course of action should a man pursue to bring him within the recognized meaning of professional etiquette? In the first place, what do we understand by the term Professional Etiquette? The word etiquette originally signified the giving of instructions on a card or piece of paper, prescribing the form of the ceremony at court or on other public occasions.

The word has come down to us to mean more than the order of ceremony. If we have authority by this time to prescribe set rules to govern professional conduct, the term is then elastic enough to prescribe for social behavior, and if for professional and social management, it then enters the domain of general instruction. If we accept this definition, we believe at the outset the location of one's office in the city or village is one of great importance. The practitioner should have his office on a street that is not objectionable to the best society; next door to a respectable place of business, with a pleasant front and a clean entrance, a neat, plain sign, Dr. William Jones, Veterinary Surgeon. The question of veterinary titles is one that must engage the attention of the profession at no distant day. It is unfortunate that the different institutions teaching the science, do not conform more in conferring of their degrees; it would be less confusing and more significant if they did. There are thirteen institutions in this country teaching veterinary medicine, either independently or in connection with a regular university course, and only four of this number agreeing as to title. The American nomenclature for veterinarians is very prolific in its store of titles, ranging as it does from a V.S., D.V.S., V.M.D., M.V.D., D.V.M. to an M.D.C. This array of titles is confusing to the public. What per cent. of the public, who need our services, would know what D.V.M. or M.D.C. was meant to convey unless told? The better part of society admires brevity, at least it should be comprehensive. You

may think it a strained notion, but remember the appearance of one's office and its surroundings, compatible with the sense of an intelligent community, is the best introduction you could have to that community.

The subject of advertising is one that, as practitioners, we differ on. For my own part I believe that the least our names appear in the public print, from a professional standpoint, the more it will dignify the profession. After a prolonged absence from home, or recovery from sickness, it is wise and perfectly ethical to announce the fact of return to practice through the newspapers. Further than this I believe we should keep our names out of the newspapers and leave medical self-advertising to practitioners who prefer to do a quacking business.

I am convinced that a newspaper advertisement should consist simply of one's name as a veterinary surgeon, stating location of office, including office hours, and, if you like, further state that all calls will meet with prompt attention. Advertising the school from which we graduated, mentioning the honors received, etc., is superfluous, and is liable to be made an object of ridicule by those who desire to criticise. We find that a business or professional man is in closer touch with the needs of the community in which he is to discharge his duty, not to have a hobby save an aptitude for and diligent attention in the discharge of that duty, whatever it may be. I would not infer that we ought to become slaves to our profession or that we should couch in secret our opinions on the momentous questions of the day in relation to religion or politics. The individual who lacks the courage to own his God is not worthy of His beneficence. No sane man would demand of another a forbearance of his religious rights, and none but a political highwayman and a demagogue would dare to attempt to control the political faith of his neighbor.

Too many business and professional men are mute on these subjects, for fear they will lose a dollar in their business should it be known that their opinions were the opposite of that of their patrons on these questions. No, no, this cause is neither manly or ethical. Openly love your religion and embrace your political faith, and all right-thinking people will admire you. It is a mistaken notion that to be a successful veterinarian one must be able to fluently relate the characteristics, pedigree, and performances of trotting horses, from Lady Suffolk to Directum, or to be able to name the animal, under the same conditions, stating the merits, etc., of all the horses in their class, from a Pocahontas to Flying Jib or

Mascot. It certainly cannot enhance our knowledge in the treatment of disease to waste hours of study in tedious research to inform ourselves of the wonderful feats, from the time of Eclipse to that of Ormonde. This kind of information is valuable to a certain class of men, but is it practicable to the painstaking practitioner? The writer has been told by horsemen, that he would stand better as a veterinarian would he devote more time to the discussion of the above topic. My answer is, when I am called to treat a case of pneumonia, the paramount thought of my mind is to talk less and devote my energy to the successful accomplishment of that to which I was called. Neither do we believe that the public demands that we should be thoroughly posted on all the leading sports of the day. What is it to the profession whether Sullivan was ever pounded out by Corbett, or that Corbett and Mitchell will ever come to blows, and when they do, should they luckily kill each other, so much the better for the morals of the Commonwealth.

I believe one should be able to speak intelligently on the legitimate and better class of sports, but to make a hobby of any one of them, such would only betray to the public our weak points and indicate a corresponding inattention to the details of our profession.

We should be in possession of the merits of famous horses, and be able to speak of them with enthusiasm and correctness of detail in relation to them that would meet the approval of a conservative and intelligent community; but for veterinarians to sit for hours in the exclusive company of grooms and jockeys, indulging in periodical conversation and wagering nickels on the correctness of one another's statements in relation to the merits or demerits of horses of fame, is far from edifying, and is proof of the mental calibre of the participant.

It should be our ambition to be fairly well informed on the more important topics of the day, so as to be able, when in the company of intelligent gentlemen, to converse in a manner evincing an interest and to some degree an understanding of the great questions of our time.

Such discipline encourages a broad and tolerant conception of the motives and actions evolved in the minds of great men, whose energies move the world in its onward march to a higher civilization. It shoals the individual along the lines of a higher education; it makes him the companion of the moulders of great thoughts; it exemplifies him as a living pattern of the truth of his

Scriptural origin ; that he was made in the image of the Great Architect of the Universe, the ruler of the destinies of his people. Therefore we believe one of the imperative duties devolving upon professional life is that the individual should be alert with the times.

There is another feature in the discharge of our duties as veterinarians which would do much towards its elevation; it is to practice a closer relationship as professional brethren.

It should be the desire of the members of this Society to cultivate that spirit of respect for all members of the profession who are not of this Society, to the same degree as is entertained by those who are its members. A charitable recognition toward all reputable practitioners broadens the estimate and heightens the esteem of the community in behalf of the profession.

There are those of the profession who are not worthy of the regard of gentlemen. It would be a waste of energy and a compromise of one's self-respect to attempt an apology for the shortcomings and vice of these periodical nuisances, whose highest ambition is the company of the bar-room and leud associations; but on the other hand we should ever be ready to assist a brother practitioner in his times of misfortune, and especially in cases of probable litigation, should the plaintiff seek our opinions in the hope of securing substantial evidence to make his case appear stronger. Our first answer to such inquiry should be to discourage the intended action, on the grounds that the defendant is quite likely to produce expert testimony in support of his diagnosis and treatment, and that the unfavorable result, beyond all doubt, was only natural. I believe we should use all honorable means to destroy a case in court where an action has been brought against an honorable member of the profession, as in a great majority of these cases they are brought for gain and not for justice. A few successful actions against the veterinarians establishes a vicious custom in the community, as it places the practitioner face to face with unnecessary and unjust hazards, and encourages the stock-owner to believe that he is entitled to indemnity in all cases where the results are unfavorable.

In short, do not allow legal precedents in these cases to be established, for should you be called before a court as the result of some unfortunate case, it would be much to your advantage to find that there was not a precedent in that particular case; in such an event the burden of evidence would rest largely upon the plaintiff.

I cannot advise too urgently the careful studying of the current literature, bearing directly upon the enlightenment of the science, published in this country. There are at present, so far as I know, three established veterinary periodicals, all published in the City of New York.

The JOURNAL OF COMPARATIVE MEDICINE AND VETERINARY ARCHIVES has reached its fifteenth year.

The *American Veterinary Review* has nearly completed its XVIIth vol., and the *New York Veterinary Journal and Record of Comparative Medicine,* a quarterly review, is well along in its IId vol.

It is needless for me to state that these journals are worthy the support of the profession. These periodicals are the result of much labor and expense on the part of those having them in charge. They are proof of the moral and intelligent support which these gentlemen are making in behalf of a higher status for the profession, and it is only our reasonable duty to give this laudable undertaking our co-operation. I believe this can best be accomplished by becoming their loyal patrons and by contributing a portion of our time in the careful preparation of some professional thesis on the more important cases coming under our care, setting forth in a clear, concise manner the best part of our professional activities. This would be beneficial in more ways than one. We believe the editors of these journals would give a welcome to such productions. We would not advise for a moment the communicating of an every-day practice to the sanctum of the editor. This would not only become burdensome to him, but would impose a much greater expense on the part of the management, and it would certainly fail of its intent; it would not be edifying. However, we are convinced a course of action such as has just been stated would be both dignified and productive of much good.

"Of all the arts in which the wise excel,
Nature's chief masterpiece is writing well."

All people respect the man who thinks. It broadens one's field of thought and research, intensifies the desire for closer study of the literature of the profession, cultivates a quality admired of men, that of being able to contribute intelligently to the literature of one's profession. This sort of discipline creates a standing in professional circles, which extends beyond the limits of our practice, and gives to the practitioner a reputation which is quite as much to be desired as that of treating disease successfully.

The many details which compass this subject on every side

are so numerous it becomes impossible to treat them, in a degree at al conclusive, in a paper like this. The features which demand consideration and have not been spoken of are quite as exigent as those that have been discussed.

In conclusion we will speak briefly and in general of principles of etiquette, which we should endeavor to emulate. They are found embodied in the code as prescribed by the Society. They are nothing more or less than a few business principles as a guide for professional conduct. We believe that they should be lived up to as closely as possible, as they possess the essence of our subject; but as we have intimated before, we believe that professional ethics cover a broader field and enter the domain of all the activities of our life. It does not mean simply the obedience of a few set rules; it is the exemplification in the daily walks of life with our fellowmen, the principles of moral philosophy.

To be ethical, as a professional man, signifies a character which is distinguished by strict honor, self-possession, forbearance, generous as well as refined feelings and polished deportment, a character to which all meanness and peevish fretfulness are alien, to which, consequently, a generous candor, scrupulous veracity, courage, both moral and physical, dignity, self-respect, and liberality in thought, argument, and conduct are habitual and have become natural.

The gentleman who is ethical in his professional conduct, possesses an equality of social claims and supercedes rank, office, or title. It passes the bounds of States and tongues; it gives him a passport acknowledged through the wide domain of civilization.

HÆMOGLOBINURIA.

Extract from Letter of John M. Eshleman, V.M.D.

Hæmoglobinuria (azoturia) is not so frequent here as in cities, but I get over 90 per cent. well by the use of tr. opii and chloral hyd. every 4 hours; F. E. buchu and jaborandi in full doses every 3 hours; and aloes in full quantity. Whether it is due to the treatment or not, I will not say, but they get well. The last two cases I had to die I withdrew opium and chloral, when pain ceased; in two days they took worse and died.

PYO-SEPTHAMIE IN FOALS CAUSED BY PHLEBITIS UMBILICALIS. *

By John Wende, V.S., Buffalo, N. Y.

The above appellation is used by Prof. Dickerhoff to designate the disease to which I wish to call your attention. Prof. Walley has given the term specific arthritis or synovitis; Prof. Williams describes the malady under the head of scrofulous ostitis, and considers it as scrofulous in its nature. Some writers view it as a constitutional disease, while others, especially the German veterinarians of to-day, accept it as pyæmic or septicæmic in origin, and a sequel to or identical with omphalo phlebitis. The disease has received attention from some of the leading veterinarians in Europe for the last one hundred years; Brugnone, of Turin, mentioned it as early as 1781. Dietrichs described the malady in the "Gestutskunde" in 1824, under the name of lahme, multiple arthritis, a disease of foals affecting the bones and joints, and about the same time Wirth designated the disease as acute epilepsie, and Hofacker confounded it with rachitis; Renard, a French veterinarian, reported the disease in 1828 existing as an enzootic at the large breeding establishments of France. In 1831 Strauss described the disease as a constitutional disturbance of the lymphatic system, especially the mesenteric glands. Traeger, in 1839, described it as due to a mal-condition of the blood. Then followed Heusinger, Funke, Spinola and Vieth, who were converts to the scrofulous hypothesis. Haubner, in 1840, being governed by its varied manifestations, described it as three different diseases affecting the suckling young, viz.: lahme, rheumatism and arthritis. The views of Hering in 1849 were that the malady was of constitutional origin, the nature of which hovered somewhere between rheumatism, tetanus and arthritis. This was followed by the theory of Furstenberg, as a fatty degeneration of the muscles, the cause of which he cast upon the great sheet anchor of catching cold. Then came Roloff with rachitis as the cause of the trouble. Thus the hypothetical confusion of this disease existed until 1873, when Bollinger, by holding repeated autopsies, discovered the true cause of this malady.

As you will infer from the term omphalo phlebitis, we have

*Paper presented at the New York State Veterinary Medical Society.

primarily an inflammation of the umbilicus and umbilical blood-vessels, which forms a distributing point and fountain-head for a metastatic pyæmia. The condition of the navel at or immediately after birth offers every opportunity for the absorption of a septic poison into the umbilical vein, there to regenerate itself a thousand fold in the thrombus remaining after the cessation of the fœtal circulation, from here the virus, in the form of small emboli, passes through the vena portal into the circulation, by which they are distributed to all parts of the body, lodging in the minute capillaries of any organ or tissue, manifesting its seat in due course of time by inflammation and suppuration, and according to the location of the embolism, you may have a varied number of complications, such as pneumonia, hepatitis, nephritis, cerebro spinal meningitis, arthritis, choroiditis, iritis, etc.

The symptoms vary according to localization and extent of complications, primarily you have hurried breathing, high fever, varying from 100 to 106 degrees F., utter want of appetite, distressed expression of countenance, patient usually preferring the recumbent position, manifesting great weakness if forced to rise, there may appear suddenly an intensely painful swelling of one or more joints, attributed generally to an injury incurred by the mare, these in turn may disappear as quickly as they developed, only to arise again in some other articulation with renewed virulence, usually terminating in suppuration. Moist and swollen condition of the navel, from the center of which there may be a discharge of ichorous pus, and immediately connected with this may be a pervious urachus, which is not, however, an imperative condition, and if present is readily recognized by the almost constant dribbling of urine from the umbilicus, which, during the first stages of the disease, is secreted in large quantities, light in color and acid in reaction, constipation of the bowels, which may soon be followed by diarrhœa, the fæcal matter being clay-colored and emitting an extremely offensive stench, fainting spells have been observed as the disease advances, abscesses appear in various parts of the body, and if not opened surgically will burst, allowing the escape of a creamy and offensive smelling pus, the discharge being especially fœtid if joints and ligaments are affected.

Post-mortem examinations of colts that have died with this malady, disclose many lesions, such as dilatation of the umbilical vein containing a thrombus surrounded by an accumulation of discolored or greyish-white purulent matter, deep seated muscular and superficial abscesses, liver is enlarged, friable and clay-colored,

with localized accumulations of pus, inflammation of the lungs, with abscesses in their parenchyma, the latter may open into the bronchial tubes, thereby producing a diffuse purulent bronchitis, pleuritis, with serous exudate in thoracic cavity. The heart, spleen and kidney present structural changes, inflammation of the bowels extending to the mesenteric glands, arthritis with purulent infiltration, often to such an extent that bones, cartilages, ligaments and periosteum have become macerated.

If the veterinarian is called in during the first stages, when the disease has not extended beyond the navel and navel vein, then a favorable prognosis can be given, as the omphalitis is only local and amenable to treatment. If, on the other hand, he is not consulted until a generalized metastatic pyæmia has been established, then the prognosis must be guarded. Siedamgrotzky places the death rate at seventy-five per cent. Hering cites a record kept at a breeding establishment in Germany for fifteen years, and says that of one hundred and eighty-seven colts which died there during the interval, eighty five succumbed to this malady, and of sixty-seven colts attacked by the disease, forty-seven died before reaching the age of three weeks.

In order to prevent the trouble the mare should be placed in a stall before foaling, where the surroundings are in a perfect hygienic condition, and not into a stall that has been used for the purpose recently, unless it has been thoroughly cleansed and disinfected, if the season of the year and other conditions are favorable, a clean pasture field should be preferred. If the colt is foaled in pasture, let it alone by all means, unless there are indications of disease. If born in stable, have the latter kept clean, wash the navel several times daily with some antiseptic lotion, or dust the parts with equal portions of iodoform and boracic acid, over which apply a pledget of absorbent cotton, to be kept in place by a bandage around the body. This should be carefully attended to until all danger of infection at the umbilicus is past. Ligating the latter as recommended by some authors should not be practiced under any circumstances. Some German authors advise an application of pine tar to the navel at, or soon after, birth.

If the disease is once established, treatment cannot be recommended too soon. If, in the first stages, the patient should be laid on its back and held by attendants, the umbilical region should be thoroughly washed with some antiseptic solution, then grasp the navel with one hand, with a sharp scalpel in the other make an incision long and deep enough to find the affected vein, which then

should be thoroughly washed out with a ten per cent. solution of creolin, using for the operation a medium-sized human catheter connected to a rubber bulb syringe. Do this several times daily; dust the parts with an equal mixture of iodoform and boracic acid, over which apply a pledget of absorbent cotton, to be kept in place by a bandage around the body. If abscesses have formed they should be opened at once, unless located in the joints, then should be aspirated, and the cavity washed out with a saturated solution of boric acid, other abscesses to receive the same attention as the umbilicus. Internal remedies should be such as will counteract the conditions present in the case. If constipation manifests itself, in summer give small doses of Epsom salts, in cold weather sweet oil in doses from one to two ounces is preferable, until the bowels regain their normal condition. If diarrhœa exists this should be overcome with vegetable tonics and astringents, in extreme cases bismuth sub. nitras may be given in ten to twenty grain doses two or three times daily. If the circulation is weak and requires stimulation, give spirits of camphor, one to two drachms diluted in milk. Salicylate of soda and quinine can also be given in their respective doses, but experience has taught me to give the colt as few internal remedies as possible, and at the same time to feed the dam a generous diet in which is mixed large doses of hyposulphite of soda and powdered gentian root.

If pervious urachus exists, inject the ordinary white lotion, or a solution of nitrate of silver, five grains to the ounce of water several times daily.

NAILS IN FEET.

By John A. Bell, V. S., Watertown, N. Y.

While nails in the feet are quite common in our everyday practice, I recently had a case which was a little out of the general line. We usually have nail in the foot, but this was nails in the feet, for both hind feet were found to be punctured at one and the same time, or, at least, the injuries were found at the same time. The case was a 1,500 pound horse belonging to one of my customers. It happened while I was attending our last meeting in Buffalo, and I did not get an opportunity to see it for about a week

after my return, the animal having been put in the hands of another for treatment. When I first saw the case the horse was standing in a single stall on a hard floor, having just been helped up. It seemed impossible for him to stand, so I concluded to place slings under him as soon as possible, until a box stall could be arranged, when he was placed in it with difficulty. He laid down almost immediately, and, upon examination, I found the left leg badly swollen, with an exudation from the quarters. The wound had not been properly opened, and the pus was allowed to burrow and come out of the heels. The right leg had received a little better attention, the opening being large enough to allow the pus to escape.

Symptoms.—Very nervous; not able to walk; seemingly having lost the use of muscles; loss in appetite; temperature 105½; respiration hurried; bordering on septicæmia.

Treatment.—Sedatives, to regulate temperature and nerves; tonics, alteratives and stimulants to counteract septicæmia and improve appetite. Changed position from side to side three or four times daily. Removed all detached portion of sole and frog of left foot, dressing antiseptically three times daily and applying carbolized flax-seed poultice (warm). On the right, enlarged opening; dressed wound antiseptically two or three times daily. And as there was but little pus escaping and much inflammation of pedal bone, I concluded to try cold carbolized flax-seed poultices, changing two or three times daily, as case required. Although this foot did much better than the right, I did not consider it a fair test, and merely read an account of this case hoping to bring about an interchange of ideas upon whether hot or cold applications are preferable for the treatment of laminitis or nail in foot before suppurating, as there is quite a difference of opinion on this question, even amongst us to-day.

As soon as suppuration ceased, cold bran poultices were applied until the fever was reduced; then blisters were applied.

Complications.—Injury to navicular joint of left foot. Inflamation of pedal bone, or peditis in right, small quittor on each quarter of left foot and paralysis of lips due to injury while lying in stall.

The former yielded to cold applications and blisters; the quittors with peroxide hydrogen and poulticing; the lips with nerve stimulants and mild blisters over the nerve.

CHOKING AND THE ADVANTAGES OF BELLADONNA IN TREATMENT OF SAME.

By John Meikle, M.R.C.V.S., Larne.

The subject of above was a cow the property of a dairyman of this town, the breed of which it would be almost an impossibility to describe, notwithstanding the protests of the owner as to her having the best of pedigrees—they have all good qualities and pedigrees, I may remark, when critically unwell.

This cow had been in good health up to the 29th December, when she was allowed the privilege of a run in the yard, convenient to the byre. It happened unfortunately that she came across a basket of raw potatoes to which she began helping herself too lavishly, with the result that in bolting the delicacies she contrived to settle one in the cervical region of the œsophagus. For five hours the owner had endeavored to remove the obstruction without success, and eventually I was sent for, about 6 P. M., to relieve the suffering animal, if possible. On my arrival the cow was down; she appeared to be pretty well exhausted, and in great agony, with an anxious expression of countenance. Water and other fluids were returned through the nose and mouth, and with accompanying periodical attacks of coughing. Pulse 120, weak, irregular, temperature 102 F., with increased respirations, and sweats over the body. The rumen had been punctured without giving the desired relief. The foreign body could be distinctly felt giving rise to an enlargement on the left side, in the region of the œsophagus, around which the tissues and the circular muscular fibres above and below the obstruction were swollen, rigid and unyielding. Without doubt the symptoms were aggravated by unnecessarily rough treatment.

I could see after examining my patient that treatment must be prompt to prove successful, so got the cow into position, passed the probang by ordinary method, taking all the necessary precautions, but found I could not encourage the obstruction to move either by pressure, or gentle tapping combined with external manipulation. Keeping the probang in position, I dissolved three drachms of extract of belladonna in glycerine, and compounded a suitable emulsion with warm water; and down the probang I poured the preparation, after removing the stiletto. At the same time I injected with difficulty some of the preparation with a hypodermic syringe on the side of and around the potato, so that

the drug came into direct contact with the tissues around the exciting cause, and after applying hot cloths to the outside of the swelling I had the satisfaction of seeing the obstruction move on. The cow jumped to her feet within fifteen minutes and partook of some linseed tea. I met the owner a few days afterwards, and happening to enquire about the cow, I elicited the remark that she was "doing rightly."

I am of opinion that the belladonna and the hot water cloths caused the muscular fibres of the œsophagus to relax, and thus favor the passage of the potato.—*The Veterinary Record.*

A COMPLICATED WOUND OF THE LEG.

By John M. Eshleman, V.M.D.

On June 11th, 1892, I was called to attend a filly that had been caught in a wire fence. On arriving at the owner's stable I found a fine bay filly, 14 months old, well developed and in good condition.

The history, of course, was very brief, simply that the mare had gotten fast in the fence some time in the morning.

On examination I found the tissues of the near fore leg badly lacerated; the wound extended from above the carpal articulation down to the sesamoid bones; the skin was torn, lacerated and laid open the entire distance; the synovial bursa of the anterior and lateral extensor of the phalanges, the carpal articulation and the great sesamoid sheath, were all more or less complicated, so that the synovia was streaming down over the hoof; the opening in the bursa of the anterior extensor was large enough to admit two fingers; the metacarpal bone was scored by the barbs in many places; the suspensory ligament, the perforans and perforatus tendons were not exposed.

After my examination I advised the owner to have the filly destroyed, as it was my opinion she would not get well, but if she did she would be worthless; to this he and his family firmly objected, saying they would be satisfied with anything rather than have her killed. With their assurance of good care, I treated her in the following manner: Washed the parts with a bi-chloride solution, then made a large pad of oakum, saturated it in a 5 per

cent. solution of creoline, and then applied it with light bandage to keep in place; this was done night and morning, during the day from 10 A. M. to 4 P. M. The wound was irrigated; the filly was kept in the slings for several weeks.

In about ten days all the synovial membranes had united except the lateral extensor, which did so about a week later, only to form an abscess which, after being opened, healed rapidly.

The greatest barrier to success now seemed to be "proud flesh," which was great, probably due to the low vitality of the tissues in this region.

When I last saw her, which was in the following October, her limb was about three times its natural size in the metacarpal region; she could raise her toe about six inches when traveling.

I do not write this with the idea that any of my fellow-practitioners may think I take any credit for the filly's recovery, but simply to show what may occur in such cases, and it might be worth trying in valuable brood animals.

PARKESBURG, PA.

OBITUARY.

DR. ROBERT C. HUTCHINGS

(20 Johnson Place, Buffalo, N. Y.)

Died at Colorado Springs, Colorado, January 18, 1894, of hæmorrhage of the lungs He had been suffering with consumption for the last three years. He spent the winter of 1891–92 at the Bermuda Islands; the winter of 1892–93 with his mother in the south of England, and this winter he went to Colorado Springs, where he died, as above stated. He was born in England, November 17, 1847; was educated in the schools of his native home. At the age of seventeen he joined the English Navy. Soon after retiring from the latter, he entered the Ontario Veterinary College as a student, and graduated from the same institution with honors in 1871. The first seven years of his professional life were spent at Watertown, N. Y. In 1878 he moved to Buffalo, N. Y., where he enjoyed a fine practice. He leaves a widow and daughter to mourn his loss.

EDITORIAL.

CURRENT LITERATURE.

(Continued from page 54.)

In the last number we gave a list of the strictly veterinary publications which reach us. There are, however, a large number of magazines and papers concerning allied subjects, which are of great advantage to the veterinarian, if not of absolute necessity. These include the journals of human medicine which treat of the advances made in general scientific medicine, and the agricultural, horse and so-called sporting papers, which keep us informed of the market, the results of breeding, and the utility of the animals which we care for.

Wallace's Monthly, monthly, Vol. XIX, published by the American Trotting Register Association, Chicago, Ill. An illustrated magazine devoted to domesticated animal nature. General articles on the horse, more specially treating of the standard-bred trotting horse, and the official register of trotting races.

Spirit of the Times and Sportsman, the American gentleman's newspaper, weekly. Vol. CXXVI, New York. A chronicle of racing, trotting, field sports, aquatics, athletics, and the stage. The official organ of the Board of Control of the American Pony Racing Association and register of running races.

Modern Medicine and the Bacteriological World. Bulletin of the Laboratory of Hygiene, Sanitarium, Battle Creek, Mich. Monthly, Vol. III. An interesting journal, illustrated, containing original articles and extracts upon bacteriological research, germ theory and the treatment of germ diseases, together with general medical subjects.

Johns Hopkins Hospital, Bulletin and Reports, Baltimore, Md. The publications of the Johns Hopkins Hospital, represent a collection of the most advanced and systematic, scientific, medical work done in America. While primarily organized for the human patient, the necessary researches and investigations include comparative medicine to such a degree that they are of equal interest to the veterinarian, and with such names as Osler, Welch, Clement, etc , among the leaders, the veterinarian feels that his profession is rapidly advancing.

The Therapeutic Gazette. A monthly journal of general, special and physiological therapeutics. Vol. XVIII. Philadelphia. A most useful, practical, medical journal, with much of interest to the veterinarian, suggesting many remedies which might be tried on animals with advantage.

The Medical Record. A weekly journal of Medicine and Surgery, Vol. XLIII, New York. Valuable original articles, progress of medical science, editorials, news of the week, society reports, etc., with much that is of practical interest to the veterinarian.

The Northwestern Lancet, a semi-monthly medical journal, Vol. XIV, St. Paul, Minn. A live, practical, medical publication.

The American Medico Surgical Bulletin, a semi monthly journal of Practice and Science, Vol. VII, New York. A general medical journal. Reports of the New York Academy of Medicine.

The Medical Review, a weekly Journal of Medicine and Surgery, Vol. XXIX, St. Louis, Mo. A general medical journal, practical, and treats of meat inspection and matters of public health.

The New York Medical Journal, a weekly Review of Medicine, Vol. LIX, New York. Lectures and addresses, original communications, leading articles, minor items, society proceedings, etc. A most useful auxiliary for scientific and practical information to the veterinarian's library.

The New York Medical Examiner, monthly, Vol. IV, New York. The Journal of Insurance Examiners.

Annales et Bulletin de la Société de Médecine de Gand, Vol. LXXII, Gand, Belgium. A valuable journal of the scientific work of Belgium.

Le Progres Médical, Journal de Médecine, de Chirurgie et de Pharmacie, Vol. XIX, Paris. Weekly. An interesting and valuable practical French Medical Journal.

Agricultural Journal, published by the Department of Agriculture of the Cape Colony, Africa. Vol. VII. Fortnightly. A useful journal, treating of diseases of animals as well as of valuable agricultural subjects.

The Jersey Bulletin and Dairy Farming.—Our field: The Jersey and Dairy World. Vol. XIII. Chicago, Ill. Devoted specially to the interest of the Jersey cattle.

The Holstein Register. Similar to the preceding, treating of the Holstein and Friesian cattle.

The Horseman. Weekly. The Chicago Horseman Newspaper Co., Chicago, Ill.

The Horse World.—A weekly newspaper published at the queen city of the north, Buffalo, N. Y. Vol. X.

Blacksmith and Wheelwright. Published monthly by M. T. Richardson, New York. Contains articles, illustrated, on shoeing horses, iron work and carriage building.

Epitome of Medicine. Published monthly by G. P. Putnam's Sons, edited by James E. Newcomb, M. D. A monthly retrospect of progress in all branches of medicine and surgery.

Public Health in Minnesota. Charles N. Hewitt, editor. Official publication of the State Board of Health. Published monthly. Red Wing, Minn. Contains the reports of the Health officers of the State ; also translations from foreign commissions, etc.

Weekly Drovers' Journal. Published at the Union Stockyards, Chicago. Harvey L. Goodall, proprietor. Reports the markets on cattle, sheep, swine and horses in the country and in Great Britain, together with interesting reading matter on kindred subjects.

Southern Clinic. A monthly journal of medicine, surgery and new remedies, edited by C. A. Bryce, M. D. Richmond, Va.

Scientific American. Published by O. D. Munn, N. Y. City. Publishes descriptions of all the latest patents, and also scientific papers on various subjects.

Forest and Stream. Weekly. New York. General outdoor sports, with special records of all kinds concerning dogs.

Farmers' Friend. Weekly.

The Breeders' Gazette. A weekly journal of live-stock husbandry. Vol. XXI. Chicago, Ill. An interesting agricultural journal.

Zeitschrift fur Fleisch- und Milchhygiene. Published by Dr. med. Robert Ostertag, Professor an der thierärztlichen Hochschule zu Berlin, Berlin. A journal of animal food and sanitary measures.

NEW YORK VETERINARY SOCIETIES.

Pursuant to a call from the New York State Veterinary Medical Association, most gratifying active interest is being taken by the County Secretaries throughout the State, in the formation of local societies.

Dr. Thomas Giffen, New York County, called a meeting on January 25th, which was aided by the presence of Dr. W. H. Hoskins, of Philadelphia, President of the United States Association. Thirty-seven practitioners answered his call and organized.

Dr. J. P. Thompson, Niagara Co., reports a promising list in his county.

Dr. Wilson Huff, Oneida Co., has issued a call to a large number.

Dr. J. M. Chase, Seneca Co., having a smaller number, will include adjoining counties in his organization.

Dr. Jno. A. Bell, Jefferson Co., will also include neighboring districts.

Dr. E. H. Nodyne, Wayne Co., has called a meeting for February 12th.

Dr. Genung, Thompkins Co., and other County Secretaries report progress.

PENNSYLVANIA STATE VETERINARY MEDICAL ASSOCIATION.

The annual meeting of the Pennsylvania State Veterinary Medical Association will be held at the College of Physicians, Philadelphia, March 6th and 7th.

Other associations will please note the time and appoint delegates to meet us.

W. H. Ridge, V.M.D.,
Secretary.

Trevose, Pa.

SOCIETY PROCEEDINGS.

MASSACHUSETTS VETERINARY ASSOCIATION.

October, 1893.

The regular monthly meeting of the Massachusetts Veterinary Association was held in 19 Boylston Place, on Wednesday evening, October 25th, at 7 30 P. M.

Dr. Burr being absent, the Vice-President, Dr. Winslow, occupied the chair.

The members present were Drs. Blackwood, Ferguson, Howard, Lee, Marshall, Parker, Soule and Winslow. After the minutes of last meeting were read,

Dr. Blackwood moved that they be accepted as read. Seconded by Dr. Howard. Carried.

Dr. Marshall wanted to hear from some of the members present on the subject of advertising. Dr. Becket had promised at last meeting to have some objectionable matter rectified.

Dr. Howard wanted to hear an expression of opinion from Dr. Lee on the matter.

Dr. Lee does not know that he has anything to say on the matter. Dr. Becket, of course, has his own opinion and can speak for himself. He is sorry if the Society does not believe in what he had done; he could not change his opinion, however. He further said the veterinary profession had been compared frequently with the medical profession. Personally he does not think they are to be compared. In most cases in veterinary practice it is merely a matter of dollars and cents, in the same way as the practice of law or banking or plumbing or the selling of groceries is merely a matter of dollars and cents. He does not see that there is any practical difference between the veterinary profession and these other money making schemes.

Dr. Marshall is surprised that Dr. Lee looks upon the veterinary profession as a trade and not as a profession. It would put a stop to all advancement if we all believed as he did.

Dr. Howard thinks Dr. Lee's statement is different from what we are used to. It is not usual to consider it only equal to a trade such as selling groceries or plumbing. Many have worked years to benefit the profession, and we have all benefited by it financially and stand better in the community in every way in consequence. Article I in the Constitution says that one of the objects of the Association is "To use its influence for the advancement of the profession both as a body and as individuals," etc. If our Association has a constitution, why not live up to it?

Dr. Rogers does not think any member will agree with Dr. Lee. He must know what it would mean to all of us if the profession was reduced to the level of dollars and cents. He is really surprised at Dr. Lee. Others, and even Dr. Lee himself, have striven to elevate the profession; he does not think Dr. Lee means all he says. Dr. Lee should have time to reconsider the position he has taken.

Dr. Lee repeated that he had meant all he had said. Veterinary practice was not the same as medical practice; it could not be compared to it: it was entirely a business transaction.

Dr. Ferguson thinks there is a higher plane than any so far expressed; when it is considered merely as a matter of dollars and cents it lowers the profession; we should try to elevate it, not lower it. He considered the rise of the profession in Cambridge a good illustration of the rise of the profession in the country.

Dr. Parker thought that the two professions were very closely allied, and the closer they were brought the better it would be for both. The medical and veterinary professions are inseparably connected with each other, and the bonds are growing closer all the time. We all know that many diseases are intercommunicable, and in many cases the medical profession have to call on the veterinarian to aid him. If the profession is reduced to a trade, if it is made merely a matter of dollars and cents, it will ruin the profession; it will have fifty years' work to do over again, and *the highest and best of the profession would be lost;* if everyone looked at it in that light we would have *no scientists;* we would have *no advance;* we would be at *a standstill.*

Dr. Lee did not think the profession should be surrounded by sentimental ideas any more than the business of a banker, lawyer. analytical chemist, or a sanitary plumber. He did not mean to lower it, but other businesses besides it have done good to the people in general. The discussion began by criticisms on business methods; there was a popular prejudice against innovations of any kind. The man who introduces any innovation meets with opposition. "In other businesses they are not hampered with codes, and he feels he should not be dictated to as to how he should conduct his business."

Dr. Blackwood says, if Dr. Lee wishes to compare it with other professions, let him do so. and he will find that even the blacksmiths have their code; if he does not believe it, let him join the union and see.

Dr. Howard said that veterinary practice cannot be compared with business, because the science is not a *positive* one. If a person is driving along the street and his wheels get caught in the car tracks, and he has a smash up, he can go to a blacksmith, who will tell him how long, and what it will cost, to have it repaired. On the other hand, if his horse goes lame it is often hard to tell where the lameness is, not to speak of the cost of repair; he may have to call in some brother practitioner in consultation. What would be the result without "Ethics"? Dr. Lee had compared the veterinary profession with plumbers; who drove plumbers into sanitary science but the medical profession? Then he compares our profession with chemists. Who ever saw a prominent chemist putting out advertisements, saying he would do business for so much? It is the same with prominent lawyers and theologians. All professions have either a printed code or an implied code; most of us do not need a code to go by; we have an instinctive knowledge of what is right and fair.

Continuing, Dr. Howard said: "We don't dictate when it comes to the actual practice of the profession; we don't dictate as to the medical or surgical treatment of cases; we only ask that a member should comport himself reasonably to other members of the profession.

Dr. Lee: In those trade associations where members have to work so many hours a day, a man is fined when he disobeys In the veterinary profession if every visit should be charged so much, it would be a great benefit, but as things are now charges are not adhered to; bills are lumped and contracts made, and until the pro-

fession advances to the point of having a schedule of prices, until some such arrangement comes, he does not see why he should be charged with being dishonest.

Dr. Howard: Dr. Lee says, "Until we have advanced to the point of having a schedule of prices." That is not advancing; who can say I should not give my services for nothing, as a charity? It is not advancing; it is going back, to have a schedule of charges.

Dr. Ferguson is glad the subject of contracts has been brought up; when he first went to Cambridge travelling quacks were selling their medicines to the large stables; he did not know how to get round them. After a good deal of consideration he went to the large stables and got a contract with them; they to furnish medicine and pharmacy; he gets all the way from $4.50 to $7 00 a horse.

Dr. Rogers thinks contracts make it much harder for young men to get started; he knows where he might have got work if it had not been for contracts.

Dr. Howard thinks that is a good point; he does not see how a young man is to get work against contract work; he asks Dr. Ferguson if he would be willing to give up contracts when fakirs were frozen out. Older men should not be jealous if young men are called.

Dr. Rogers thinks young men can often underbid older men; he has had chances to do so, but had not done so because he had not thought it right.

The meeting then adjourned.

JOHN M. PARKER, *Secretary.*

November, 1893.

The regular monthly meeting of the Massachusetts Veterinary Association was held at 19 Boylston Place on Wednesday, November 22, 1893, at seven-thirty P. M.

The President, *Dr. Burr*, in the chair.

The members present were Drs. Becket, Blackwood, Bryden, Burr, Emerson, Towle, Howard, LaBaw, Marshal, Osgood, Parker, Rogers, Simpson, Winchester and Dr. Stickney, honorary member.

The minutes of the previous meeting having been read and approved, the chair called for the report of delegates to the Chicago meeting.

Dr. Emerson reported that the attendance was large and the papers good.

Dr. Winchester said that delegates from France and Australia were present. Massachusetts was well represented, as were other States. Some of the papers and discussions were of the greatest interest. The matter of advertising had also been taken up, and was at present receiving the attention of Dr. Hoskins. Instead of the present illumination the seal of the association will be used for letter heads and envelopes; this change will not be made until the association becomes incorporated, when the seals will be distributed for the use of the members.

Dr. Becket said that Dr. Winchester had pretty well gone over the ground. There were some good papers on Tuberculosis, especially one read by Dr. Clement, of Baltimore, who gave an exhaustive resume of experiments; another by Dr. Pearson, of Philadelphia, who discussed the action of tuberculin. In speaking of the specific reaction, he said that in some animals there was no specific rise in temperature from the tuberculin; these were mostly cases where the disease was well advanced, and in these cases so much tuberculin was already in the system, as a result of the disease, that the few grains introduced did not create any particular disturbance; on the other hand, in the cases not so far advanced, the specific reaction was pretty constant

Remarks were also made by Drs. Bryden and Osgood, both of whom had been greatly impressed by their visit to the "White City."

Dr. Howard then moved that the report be accepted and the committee discharged with thanks.

Dr. Marshal seconded the motion, which was carried unanimously.

New Business. The secretary then asked the members to volunteer for papers for the ensuing meetings.

Dr. Simpson offered a paper on "Digitalis" for the January meeting.

Dr. Osgood moved that Dr. W. M. Simpson be asked to contribute a paper at the February meeting. Seconded by Dr. Blackwood. Carried.

Dr. Charles Simpson then asked for information as to whether cities are forced to appoint veterinary surgeons as inspectors. In Somerville an inspector had been appointed who was not a veterinary surgeon.

Dr. Osgood explained that if an appointee was unsatisfactory to the Board of Cattle Commissioners they could remove and appoint any one they wished at a salary of not over $500.

Dr. Howard then rose and said that at the last two meetings the subject of Ethics had been thoroughly discussed; a great deal had been said on the subject, and he would now like to offer a resolution.

Dr. Rogers thought it would have to lay over till next meeting to allow due notice to be given.

Dr. Howard wanted to know from the President if it was not in order to consider it at the present meeting.

The chair decided that it was in order and could be offered at this meeting.

Dr. Howard then rose and said, the question of ethics had been brought up for discussion and certain members had been severely criticised. The association had so far taken no action on the matter, and so he brought forward the resolution to express his feelings on the matter, and to enable the association to put itself on record on the stand taken by Dr. Lee.

At last meeting advertising was fully discussed, and attention was particularly called to one particular advertisement in the press. At that time Dr. Becket said that that advertisement did not receive his sanction. The other day he noticed the advertisement referred to was still in the paper. Consequently he introduced the resolution and sees no reason why it should not be presented.

Dr. Becket then said in reference to the last remark of Dr. Howard's he regrets it, and admits he has been negligent in not attending to the matter. It shall, however, be attended to at once. He does not sanction it.

Dr. Howard is pleased to hear what Dr. Becket says, as it practically sanctions the gist of the resolution, which is as follows:

WHEREAS, The question of Ethics having received a full discussion, and in that discussion the methods of advertising of certain members having been severely criticised, be it therefore

Resolved, That this association hereby express its censure of the promiscuous advertising of the Boston Veterinary Hospital, and commend such management to a sincere consideration of the proper observance of our code.

Dr. Winchester moved that the resolution be accepted. Seconded by Dr. Blackwood.

Dr. Howard then pointed out that if the resolution is adopted by the association it puts on record its condemnation of such advertising; on the other hand, if it does not adopt them, it puts itself on record as not condemning such advertising.

After some discussion the chair put the resolution, which was carried.

Dr. Rogers then showed an interesting specimen of partial fracture of the sixth cervical vertebræ. The horse had been found in the morning with one of his hind feet caught in his halter rope. He was afterward unable to lift his head more than about eighteen inches from the ground. He was killed two months afterward when the bones were found in the condition shown—viz., fracture of lateral processes.

JOHN M. PARKER, *Secretary.*

December, 1893.

The regular monthly meeting of the Massachusetts Veterinary Association was held at 19 Boylston Place, on Wednesday, December 27, 1893, at seven thirty P. M.

The President, Dr. Burr, in the chair.

The members present were Drs. Becket, Bryden, Burr, Carlton, Emerson, Howard, LaBau, Marshal, Osgood, Parker, Rogers, Sherman, Winchester and Winslow.

The minutes of the previous meeting having been read, Dr. Osgood said he wished to make a correction ; in answer to Dr. Simpson's question about the appointment of Inspectors he had said that the original appointment lay with the cities and towns. The Inspector need not be a Veterinary Surgeon. If he was not satisfactory to the Board, however, he could be removed by them, and another Inspector appointed at a salary of not over $500 per annum. With this correction the minutes were adopted.

NEW BUSINESS.

The Secretary then read a letter from the new "Veterinary Magazine" asking the support of the Association.

Dr. Osgood moved that the new Journal get copy of the Society proceedings as well as the old Journals ("Veterinary Review" and "Journal of Comp. Med"). Carried.

Dr. Carlton then read an interesting paper on "Homeopathy as applied to Vet. Med." In the discussion which followed Dr. Winchester said that he had never "hung up his shingle" as a homeopath, at the same time he is a firm believer in small dosage ; one of the most useful drugs he has used is "Veratrum Vivide" ; he has used it for a number of years for all sthenic troubles, and all sthenic febrile conditions from whatever cause, in small doses, repeated frequently. In speaking of the difference in the action of drugs in different cases he said that he had a 1600 pound horse that morning sick with Azoturea ; he had given a hypodermic injection of 2½ grains morphine and less than one-half a grain atropine at 10 A. M. ; at 4 P. M. the horse was "blind as a bat." At other times he has given as much as 40 grains morphine and 5 grains atrophone, and has not had the same results ; on the other hand he has seen a horse crazy from 1½ grains morphine and ¼ grain atropine.

Dr. Carlton thinks the result in these cases was due to the atropine being in excess.

Dr. Winchester says it is a fact that we can give some horses proportionally a much greater amount than others.

Dr. Osgood thinks Dr. Winchester gave excessive dose in combination ; has

never seen horse get 3 grains morphine and 1 grain atrophine without going crazy. The combination intensifies the action of both drugs. In the horse opium has the same action as Belladona.

Dr. LaBaw cited a case he had seen in Springfield with Dr. Osgood who had given 1½ grains morphine and ¾ grain atrophine when he, Dr. LaBaw, arrived some time later he found the horse pressing his head against the wall, with dilated pupils.

Dr. Osgood believes that in aconite small doses repeated are better than large ones. After some further discussion Dr. Winchester moved that a vote of thanks be given the essayist. Seconded by Dr. Winslow and carried unanimously.

Dr. Bryden then read an interesting paper on Quittor. In the disscussion which followed Dr. Bryden said that the average time he allowed for a true Quittor to heal was seven months.

Dr. Marshal said that when he was with the St. R. R. Co. he had had a great number of cases of quittor. These cases were treated with sulphate of copper injections and poultices; he had not found it necessary to treat any horse for seven months. They had usually good results.

Dr. Bryden said it was not fair to take a number of cases and bunch them; the history in each case should be considered separately. Where tissue changes have gone on it was impossible for them to heal in a few weeks.

Dr. Howard asked the essayist if he keeps the horse at work or if he poultices and lays still.

Dr. Bryden says that where the horse is not same he poultices and works.

Dr. Sherman says his treatment consists in paring away all the horn in the neighborhood of the sore; he puts shoe on and does not touch sinous. Whenever he has probed and injected he has had more trouble. He simply keeps hoof away from shoe and the case gets well.

Dr. Bryden explained that he considered true quittor to be where there was a condition of hoof where the tissues are confined and degenerated (not so far as necrosis), but a certain amount of degeneration has gone on and the circulation is dammed back. Then, when by the removal of horn and softening of the foot by poultices, the obstruction to the circulation is removed; the tissues spring back into life again If a bird's plumage is removed it is impossible to make them grow in a day or two In the same way, if a foot is confined, and the coronet tight, the tissues below are interferred with, a process of degeneration goes on, cartilagenous changes set in, and the cartilage hypertrophic.

He thinks that the pathological changes in the foot ought to be thoroughly studied.

Dr. Winchester referred to paper read at the meeting in Chicago where the fistulæ was due not to external violence, but to internal causes; he thinks that is what takes place in the form of quittor referred to by Dr. Bryden. The speaker then referred to a case of sidebones he had treated on Dr. Bryden's plan with excellent results.

Dr. Howard remarked that they all admitted that quittor could arise as Dr. Bryden described; some of those present seemed to think that it was only one form of quittor; according to Dr. Bryden it is a matter of faulty diagnosis.

After some further discussion the meeting adjourned with a hearty vote of thanks to the essayist.

JOHN M. PARKER, *Secretary.*

GERMAN VETERINARY MEDICAL ASSOCIATION FROM NEW YORK AND VICINITY.

The regular monthly meeting was held Tuesday evening, January 9th, 1894, at 213 Forsyth Street.

The meeting was called to order by the president, *Dr. L. R. Sattler*, Newark ; upon roll call the following gentlemen responded to their names, viz.: Drs. Turner, Serling, Kuntz, Vogel, Wellner, Patschek and Simmons, Flushing.

The minutes of the previous meeting were read and approved.

Several communications from absent members were read by the secretary, expressing regrets for being unable to attend the meeting. Then the secretary's report was read, which showed the association to be in a flourishing condition numerically, and the roll call showed a large increase. He complained of the lack of interest taken by the members in making the meetings interesting and instructive. He inti mated that association matters were not matters of dollars and cents, or individua benefit, but were for the advancement of the veterinary profession, and the protection of the public in the State of New York.

The report read by the treasurer showed the association to be in a rather straitened condition financially ; considerable money stands out due the association by members who are in arrears.

Dr. Patschek was elected an active member of the association.

Dr. Sattler then read a paper on the problems of the veterinarian, and their conduct in their practice. In a discussion in which *Drs. Serling*, *Vogel* and others took part it was concluded to publish an annual report from the association, which should contain all the papers read before this association. The next essayist, *Dr. Vogel*, presented an elaborate paper, the subject being "Vertebrates in health and disease, examined closely from the extreme standpoint of Darwinism. That paper will be continued in the next meeting.

Dr. Patschek made a few well chosen remarks on tuberculosis in chickens ; he said the temperature is not higher than in other animals, and he believes that tubercle bacillus can be found in eggs; raw eggs and soft boiled eggs should not be eaten. Then he spoke about the sale of diseased meat and milk, and hoped a proper legislation would regulate this sale. After the subject matter had been discussed by most of the members present, a vote of thanks was tendered the essayists for the able and masterly manner in which they had entertained the meeting.

The next meeting will be held on Tuesday, February 13th, at 3 P. M., at Dr. Sattler's residence, 22 17th Avenue, Newark, N. J.

H. WELLNER, D. V. S.,
Secretary.

New York, January 9th, 1894.

KEYSTONE VETERINARY MEDICAL ASSOCIATION.

The regular meeting of the Keystone Veterinary Medical Association was held Tuesday evening, January 9th. The meeting was called to order by *Dr. Charles Lintz*, who was called to the chair in the absence of the president, Dr. Charles T. Gœntner. On roll call Drs. Rhoads, Lintz, Hoskins, Bridge and W. L. Hart answered. The minutes of the previous meeting were read and approved.

The report of the Board of Censors was next made. The following resolutions, after some discussion, were adopted by the association, and the secretary directed to transmit them to the respective persons to whom they were addressed:

Philadelphia, Pa., January 9th, 1894.

HON. WM MANN,

Prothonotary of the County of Philadelphia:—

DEAR SIR:—We, the officers and members of the Keystone Veterinary Medical Association, respectfully call your attention to the many changes that have occurred from death, removal, etc., in connection with the veterinary medical registry of this county, and that the law under which said registries were made enumerates as one of its features that a record shall be kept of such changes, and a suitable minute made upon the registry book.

Appreciating your many kind services to us in the past in this direction, we would respectfully request that a record be made in conjunction with the following names as those who have died since said registration was made, namely, Drs. Wm. H. Hitchman, George Kilbride, James McCourt, John Lovett, John B. Berry, Theodore Apeldorn, L. C. Campbell.

As removals from the city, Drs. R. S. Huidekoper, who is a resident of New York City; Wm. A. Birch, N. A. Cohen, Antoni Maurice, and Edward McCarty, now residents of the State of New Jersey; Chas. Lintz, now a resident of Chester, Delaware County; J. P. Zuill, now a resident of Delaware; Harry Walter, who has removed to Wilkesbarre, Luzerne County, and Dr. L. O. Lusson, who has removed to Ardmore, Montgomery County.

We would further request that you, personally, examine the veterinary medical registry, and give necessary directions as you may deem proper, inasmuch as we have found by examination that of many of these registries their addresses have never been placed with them, and in some one or two instances the name of the person registering has not been placed at the top of the column; and might we not ask at your hands that each person registering will be required to furnish to your office the date of his diploma?

Thanking you for past courtesies, and trusting we are not asking too much at your hands, we are,

Respectfully,

CHAS. T. GOENTNER, D.V.S., President,
Bryn Mawr, Pa.

WALTER L. HART, D.V.S., Secretary,
1411 North 4th Street, Philadelphia, Pa.

Philadelphia, Pa., January 9th, 1894.

HON. J. STERLING MORTON:—

HONORED SIR:—We, the officers and members of the Keystone Veterinary Medical Association, have read with very much pleasure and gratification your recommendation to the President, as conveyed to the people of the United States through his recent message, your desire to base all veterinary appointments in the Bureau of Animal Industry, over which you preside, upon the merit system, "and the wiping away of the infamous spoils system," which so often forces upon officers inefficient and incompetent men for these places, which are of so much importance. We also gratefully acknowledge your recommendation in regard to some method looking toward the extermination of "tuberculosis" from the milk cattle of our land, and we

pledge you that in any way we may assist or serve you our association will only be too glad to render to you any aid within its power in carrying out these meritorious recommendations.

Respectfully yours,

CHAS. T. GOENTNER, D.V.S., President,
Bryn Mawr, Pa.

WALTER L. HART, D.V.S, Secretary,
1411 North 4th St., Phila., Pa.

The evening was well spent in discussing the subject of "Milk Fever," with a report from State Veterinarian Bridge of the recent outbreak of "tuberculosis" at Washington, Pa., and some remarks on the outbreak of "glanders" at Wilkesbarre, Pa., after which Dr. Hoskins reported a series of statistics in regard to varying weights of horses under injuries and various diseases, with the loss and gain measured from week to week. According to the record which he kept, horses with painful foot troubles lost most in weight, and much faster than any other disease. He also reported a case suffering with a spinal lesion of the lumbar region, which was emaciated, which gained an average of five pounds a day.

Dr. Chas. Lintz reported a case which he was called to look at suffering with colic, which was under the influence of some poisonous drug, which he, according to the symptoms the animal was laboring under, took for belladonna poison. Animal at the time looked at was staggering; pulse hardly perceptible; respiration, same; pupil of the eye very much dilated; mucous membrane very dry. Injected pilocarpine; in fifteen or twenty minutes showed improvement, in a half hour respiration and pulse increased. Improved and lived four days and died from blood poison, from a large abscess which formed on the inferior part of the neck.

After some other business the meeting adjourned to meet second Tuesday in February, at which meeting Dr. Bridge will read a paper on "Glanders," and Dr. Lintz will read one on "Corns."

WALTER L. HART, *Secretary.*

NEW YORK STATE VETERINARY MEDICAL SOCIETY.

PROCEEDINGS OF THE FOURTH ANNUAL MEETING.

The fourth annual meeting of the New York State Veterinary Medical Society was held at the Vanderbilt House, Syracuse, N. Y., on Tuesday and Wednesday, Jan. 9th and 10th, 1894.

FIRST DAY—MORNING SESSION.

The meeting was called to order at 11 A. M., President R. S. Huidekoper in the chair.

The Chair—The Secretary will call the roll. Roll call showed the following members present during the meeting:

Drs. J. A. Bell, W. L. Baker, Chas. Cowie, J. W. Darby, G. G. Dean, Geo. Gowland, E. D. Hayden, W. Huff, N. P. Hinkley, R. S. Huidekoper, E. B.

Ingalls, V. L. James, Wm. H. Kelley, Prof. Jas. Law, Drs. F. Morrow, C. D. Morris, E. H. Nodyne, J. A. Pendergast, M. M. Poucher, D. C. Papworth, Jno. Wende.

Dr. Baker moved, and seconded by Dr. Huff, that the regular business be laid over until afternoon, that the Board of Censors might hold special session to decide upon what action should be taken on the application of Dr. C. F. Moadinger and Dr. E. Pohl. Carried.

The President—You are all aware that the applications in question were laid over from last meeting to be acted upon at this, the annual meeting. The gentlemen who were appointed to act as Censors pro tem. at the October meeting will now report what action has been taken regarding the applications in question.

Dr. Morris—Regarding Dr. Pohl, I have corresponded with the President and Secretary of the Ontario Veterinary College and found he did not pass for want of knowledge of veterinary medicine. He then went to Ohio Veterinary College and was graduated from there. The standing of this college is not such as we can recommend.

Dr. Baker—Dr. Pohl roomed with me in Toronto; I did not think he was proficient; he did not have the ability needed.

Dr. Cowie—I do not think we ought to refuse admittance on account of his being unable to understand the English language.

The President—The Secretary will read the letters from the Ohio Veterinary College in reference to Dr. Pohl. The Secretary then read the letters as requested.

Dr. Morris—I will say in defence that this school has been reorganized lately. This man King is put down as an instructor; he is dean of the college according to the catalogue they send out. When he was at Toronto he would not associate with gentlemen. I do not feel that I shall retract from what I said last October. The present gentlemen are not responsible for what the other men did.

Dr. John Wende—I was told by a man from Ohio that the staff of this Ohio Veterinary College was partly composed of gypsies and were men who were only practical blacksmiths.

Dr. Morris—If these charges (if so called) were absolutely false, I would have been sued in the Supreme Court long ago. I received a letter saying that I would be if I did not retract from what I said, but so far I have not.

Dr. John Wende—Dr. Pohl blames me for all of this trouble regarding his graduating, and why he was plucked was one factor; the requirements are that students must practice between sessions. He presented a paper from Dr. Wm. Somerville, Jr. This certificate stated that he had practiced six months. On inquiring of Dr. Pohl about this he said he did not know about the office practice, but when Dr. Somerville had a case where people could not talk or understand the English language Dr. Pohl was asked to go as a sort of interpreter, but did not practice.

The President—Is he a desirable man for a member?

Dr. Baker—No, sir; and I think we ought to refuse him on account of the standing of the college from which he graduated.

The President—Dr. Morris, was the statement in regard to the Ohio Veterinary College a statement of facts, or learned from others on hearsay?

Dr. Morris—It was told to me by a person who said he knew it to be so.

Dr. Wende—The first graduating class from that college had more members than there were members in the class during the winter term.

The President—A statement that they were graduating men who attended the college from six days to six weeks should not be made without definite proof. I would like to hear from Dr. Hinkley.

Dr. Hinkley—I have not been personally acquainted with Dr. Pohl very long only since the matter of his being accepted in the Society as a member came up, and have nothing to say against him.

Dr. Cowie—Dr. Morris' statements are in regard to the old college; I understand that it has been reorganized and is in better standing now.

Dr. Baker—I move that Dr. Pohl be rejected, and a committee of three be appointed to investigate the standing of the past and present status of the Ohio Veterinary College. We must not consider on hearsay, but must have facts. Not entertained.

Dr. Morris—I acted hastily in signing the application, and did not notice from what college he graduated until after I had signed it.

Dr. Cowie—Will Prof. Law give us his opinion on this matter?

Prof. Law—If the applications mentioned were accepted and questioned at the same sitting, they could be thrown out.

The President—I do not think we can rescind from action taken.

Dr. Huff—I agree with Dr. Morris. We must examine the standing of the college from which an applicant says he graduated before we accept him.

Dr. Cowie—I would allow that the election of Dr. Pohl to membership be allowed to stand as it is, and that he is a member of this Society, and that a committee of three be appointed to inquire into the standing of the Ohio Veterinary College.

Dr. Dean—I second the motion. Lost.

Dr. Huff—I amend to have the application laid over until the next meeting.

Dr. John Wende—I second the motion. Question.

Dr. Hinkley—Dr. Moadinger's application was received at the annual meeting in January, 1893, and examined by the Board of Censors; it had only one reference and was returned to him for the purpose of obtaining the second name as a reference, which he did and returned to me with his check for seven dollars, amount of fees and dues; I returned receipt to him.

The President—Dr. Pohl has been elected and is ready to make his payment, as I understand it. But Dr. Moadinger has never been elected a member.

Dr. Huff—I will withdraw the amendment I made to Dr. Cowie's motion.

Dr. Morris—I move that we adjourn until 1.30 P. M., allowing the members to get dinner, after which the officers of the Society and the Board of Censors will hold a private session with Dr. Moadinger, that he may be given an opportunity to speak in his own defence. Seconded by Dr. John Wende; carried

FIRST DAY—AFTERNOON SESSION.

Meeting convened at 1.30 P. M.

Dr. Baker, seconded by Dr. Poucher, that reading of the minutes of the last meeting be dispensed with, as they had been printed and circulated among the members. Carried.

President Huidekoper then read his annual address as follows:

GENTLEMEN:—The duty devolving upon me, as President, of having to meet you with an address of welcome is a double honor and pleasure I appreciate it the more as I see that we have gotten beyond the incubative stage, where everything rests upon the shoulders of the Association's officers, as it did in the early days of veterinary societies. Now there is a general established feeling of permanence, shown by the regular attendance of members, and by the methodical work which is done.

One year ago we had a most satisfactory meeting, here in Syracuse, although much that was proposed and discussed ventured upon new ground and was at most tentative. I was most unfortunately prevented from attending the last meeting, held in Buffalo, but was proud of the amount of work which we have recorded from those two days. Subjects of importance were so aggressively discussed that good must come from the free interchange of opinions, and the right and truth of conditions complained of must be reached. Papers of scientific value gave to all objects for reflection lasting over the days of the meeting, and personal affiliation with one's colleagues brightens one up, and makes the return to the routine drudgery of practice more cheerful.

During the last year we have added some score of new members to our roll. Our By-laws have been carefully revised to meet the requirements of our improved position and the more important functions which we are called upon to perform. The change of date for holding the annual meeting and by a longer session, including the semi annual meeting, is an excellent one, as it fixes a time when the profession is less busy and can more readily take a holiday. It was also advantageous to change the place of meeting, as we can hope by going to fresh ground to stimulate the interest of various localities throughout the State.

Charges were brought by Dr. Morris against the methods of certain schools teaching veterinary medicine. This was a bold and honest act. The United States Veterinary Medical Association has set the example for defining the standard which is required to *guarantee* a proper veterinary education. In doing so it recognized that it must necessarily keep from its doors many a well educated, reputable and desirable candidate for membership. But, the protection of its ranks for the future and the necessity of insuring proper teaching for the students of the future demanded that some decisive step be taken; and it was. While the State Association has not yet drawn its lines so rigidly, it becomes more incumbent upon individuals to scrutinize and investigate the credentials of every applicant for our ranks. This question comes before us again, and each one must argue and vote honestly upon his convictions without reference to any feeling or personal friendship, but guided only by the facts as they shall exist after the accusations and defense have been heard.

We had to blush at the condition of affairs political which warranted such a report as we received from the Committee on Legislation. The present laws in regard to veterinary practice are certainly farces, in letter and in the absurdity of attempting to execute them. A strenuous effort must be made to formulate some act which will meet the requirements of the present status of the veterinary profession. I believe, however, that more rapid good can be obtained by strict requirements in our own organization and adhesion to them by our own members. The moral effect upon the public will soon be felt.

We have sustained a sad loss during the past year in the death of Wm. Kirk, of Niagara Falls.

Another death, while not affecting our membership, has removed a prominent veterinary practitioner from the State. W. F. Carmody, M.R.C.V.S., was known by reputation, if not personally, to most of us. Dr. Carmody was a zealous, active member of the profession. He was the moving genius of the organization of a Veterinary Association in New York City a few years ago While this Association did not live a great while, its plans were excellent, as may be attested by its papers, which recently came before me, and it is to be regretted that Dr. Carmody did not have better support. Dr. Carmody was Veterinary Inspector of the National Horse

Show Association, and at its last exhibition contracted pneumonia, from which he died.

Outside of ourselves. much has been accomplished in the last year. The State Board of Health has made most satisfactory practical demonstrations of the value of tuberculin in diagnosing tuberculosis in cattle. It has further put its tests into practical use and has eradicated the disease from numerous large herds of cattle. We will have with us Dr. Cooper Curtice, of Moravia, to whom the execution of this work is to be accredited. and we shall hear of it from him.

The General Government has declared that contagious pleuro-pneumonia has been eradicated from the entire country. and promises that the freedom of our foreign cattle trade shall soon be re-established.

The United States Veterinary Medical Association held a five days' busily occupied session at Chicago. It took in hand the execution of the resolution for improvement of the status of the veterinarian of the U. S. Army, which was approved at our last meeting. It resolved to obtain a national charter, which will be a vast step towards centralizing and defining the position of the profession in its relation to the public. It took radical steps towards bringing us in closer relation with foreign veterinarians, and paved the way for the holding in the future of another International Veterinary Congress, which shall be as thoroughly so in fact as in name. The election of Dr. W. H. Hoskins, of Philadelphia, to the presidency of the United States Association is equally a personal gratification to us all, as it is an assurance of the greater work which will be accomplished in the coming year.

You will all join me in hearty thanks to and recognition of our appreciation of the work of our Secretary. Dr. N. P. Hinkley, of Buffalo, to whose labors we are indebted for the success of the Buffalo meeting and for the organization of the present meeting.

With the large amount of work before us, I will not occupy more of your time, except to give you all, in behalf of the Association, a cordial welcome and best wishes for the coming year.

Moved and seconded a vote of thanks to the President for his very able address.

The President—Prof Law is with us and has a paper to read, which I know will be of great interest and benefit to us all. As he is obliged to return home by early train he would like to read it as soon as possible. thereby giving an opportunity for discussion. What is your pleasure?

Dr. Wende—I move we suspend regular business and listen to Prof. Law's paper. Seconded and carried.

Professor Law then presented a paper. (See page 101 this number of Journal.)

The President—Gentlemen, Prof. Law's paper is open for discussion.

Dr. Hinkley—Professor is the action of tuberculin on animals as well marked in one in the incipient stage as in one in the advanced stage?

Prof. Law—It is better marked in those where the tubercles are better marked or advanced. In advanced worn out cases the tubercles are more abund ant, and the tuberculin makes noticeable change. In the more advanced ones the disease is more noticeable in the membranes. A professional man could tell.

The President—To what degree have you found tuberculin to affect a rise in the temperature when the animal is suffering from any other disease?

Prof. Law—No perceptible rise except in the parturition period, which is no period to test on the cow.

Dr. Morris—When the tuberculin was injected, and there was no tuberculosis found, were there satisfactory results found on post-mortem examination?

Prof. Law—Yes, and long experienced men say it is from their wrong observations.

Dr. Morris—Where tubercles are attached to small membranes, is the meat as dangerous as where the kidneys, thoracic glands, or other large organs, are affected? I know in New York City meat was passed when not affecting large portions and was only on the muscles. When found on the liver the Inspector said this did not affect the meat as the secretions of the liver would overcome the trouble.

Prof. Law -Does this remark include the whole carcass?

Dr. Morris—If found in the thoracic cavity, or glands outside of the liver and kidneys, they must not use the meat.

Prof. Law—We have no evidence that the effect would be the same as in actinomycosis. We must leave that out in this case. Are we not bound to remove that which is endangering the public life by eating meat and milk, even when cooked?

Dr Morris—The danger is in using meat and milk without being thoroughly cooked

Prof. Law—That is my point. Tuberculin is a chemical poison and produces a morbid process in the system by inoculation.

Dr. Moadinger—Does condensed milk contain the poison or is the action retained in that?

Prof. Law—If heat does not destroy the poison it is dangerous to use it.

The President—I am gratified to hear this, as it adds an important subject for discussion to the list, and one of use to all. I was called to see a herd of about fifty cows, in which it would have been impossible for anyone to have made a diagnosis of tuberculosis by the physical symptoms All of these cows had answered to the tuberculin test. Cow after cow was destroyed, and every one proved to be diseased, although in some cases the lesions were confined to a few tubercles and diseased mediastinal or mesenteric glands. I found them all to be in different stages of tuberculosis; all of them, to the observing veterinarian, would have been passed all right; by use of the tuberculin they were found to be suffering from tuberculosis.

Dr. Cowie—Where can tuberculin be purchased?

Prof. Law—Lehn & Fink, New York It does not matter about the strength; usually use four drops for a cow; use boiled water for injection with hypodermic syringe.

Dr. James—Does it make any difference about cows being pregnant?

Prof. Law—It makes no difference.

The President—Dr. Faust uses from one-quarter to one-half that amount.

Dr. Baker—In case of calcareous deposit can we get the same result?

Prof. Law—You will have more or less of marked rise of temperature.

Dr. Baker—Can you produce tuberculosis by injection of tuberculin?

Prof. Law—In cases where you get the genuine tuberculin you cannot, but where incipient tuberculosis exists it may be awakened and hastened by the tuberculin. Discussion closed.

Dr. Huff moved, and Dr. Morrow seconded, a vote of thanks be given Prof. Law for his very able and interesting paper. Carried.

The President—We will listen to the report of the Secretary.

SECRETARY'S REPORT, JAN. 9TH, 1894.

Mr. President and Gentlemen :—I have the honor to submit my annual report as Secretary of this Society, and it is with no little gratification that I assume this duty.

Four years ago this Society was organized and I was chosen as your Secretary, and you have seen fit at every election of officers since that time to honor me with a re-election ; a trust that I have not only felt honored and pleased with, but one that I have faithfully and earnestly tried to fulfill At every preceding report I have had encouraging and gratifying results of the conditions of the Association to submit for your consideration ; the record of the past year is no exception, and I am sure you will not contradict me when I say that veterinary science in the Empire State to-day is making such rapid and successful strides forward that our State Society ranks on an an equal with any State veterinary organization in the Union. We have good reason to congratulate ourselves on our success.

This success is not only in increased numbers of members and good financial standing, but in the interest that nearly all qualified Veterinarian Breeders' Associations and the press and public have shown in our annual and semi-annual meetings. This is largely due to the individual members who have always taken an active part, always ready to respond to any appeal for aid to support and help along the good workings of this Society.

Gentlemen, we are no longer an experiment or a theory, but a practical success. Our membership list is increasing and growing fast, numbering at present one hundred members in good standing and coming from all parts of the Empire State, from the little burgh as well as from the large and busy cities - all anxious to enroll their names on our banner.

And I am positive that not a single member of our Society to-day will say that he has not received some benefit from the pleasant and interesting meetings of this Association.

But do not stop here ; let us all continue our energies and interest until we have every qualified veterinarian in the State of New York, whose moral, social and professional standing is of such character as to allow him to be proposed to our Society and to become a member. Then and not till then can we say that we have accomplished our object and expect the reward of just recognition in the legislative body at Albany; and the municipal authority of our villages and cities, where at present butchers, cigar makers, political heelers, hoodlums, are appointed by our Health Boards as cattle inspectors and other positions which should be filled only by properly educated veterinarians.

The year of 1893 has been one long to be remembered by the veterinarians of America; the numerous successful and highly important discoveries made by our scientific workers in our laboratories: the complete stamping out of that terrible scourge pneumonia; the very important action taken and being carried out of stamping the greatest foe and destroyer of the human race (tuberculosis) by our State Board of Health, and the successful meeting at Chicago of our first Veterinary Congress held in America, where the brightest and brainiest men associated in veterinary science met and discussed important discoveries, and furnished plans for future success and prosperity, and for the public health, making it a memorable event and one never to be forgotten by those who had the good fortune to be present.

A deplorable fact to which I wish to call your attention, is the organization of numerous veterinary schools or colleges throughout the whole United States; almost

every State has one or more veterinary colleges in existence; some of them, I am sorry to say, have no right to term themselves institutions for the acquirement of veterinary science. Their faculties are composed mostly of doctors whose knowledge of the veterinary art is so meagre that it is a disgrace to our profession to see their names on the public announcement sent abroad.

They give a short term of two courses from three to six months each, at the end of which time they give the fortunate, or, as I often think, unfortunate graduate a diploma and a degree which may have a good portion of the alphabet added to it composed mostly of D.V.S., M.D.V., D.V.M., V.M.D., V.S., etc.

Now while I have nothing personal against these "hurry-up colleges," I think it is the duty of every veterinarian, when an opportunity presents itself, and we all have an opportunity sometimes, to advise young men who are desirous of taking up the veterinary profession, to go to the college where he can get the most thorough education. They are all short enough as to time, but we all have hopes that the time is not far distant when our veterinary scholars—those who value their reputation—will come together and demand a better education, and at least a four years' course. I very earnestly call your attention to the urgent need of a Committee of Education and Intelligence.

During the past years our annual and semi-annual meetings have been both successful and well attended. Interesting papers were read and were well received, and no doubt brought forth good fruit.

At our last semi-annual meeting in Buffalo we were honored by the presence of Dr. W. Horace Hoskins, now President of the U. S. V. Med. Ass'n, who by his vast experience as an active member, and for years as Secretary of the U. S. V. Med. Ass'n, rendered us great and valuable aid in the important work of forming By-Laws and Constitution. At that meeting it was decided to have only one annual meetings after the present meeting, and to change the place of meeting each year to not only accommodate all members, but to try and interest all veterinarians in the different parts of the Empire State. The change, in my opinion, is a good one.

As your Secretary, during the past year, I have sent out about 3,000 invitations and have received about 200 letters, all of which have been promptly answered; I have by personal letters attempted to keep up a lively interest in the workings of the Society, but have not been able to accomplish as much as I desired owing to ill health.

The JOURNAL OF COMPARATIVE MEDICINE AND VETERINARY ARCHIVES was sent me free of charge; 250 printed reports of the proceedings of the last meeeting, held at Buffalo, Oct. 11th, 1893, and the *American Veterinary* sent 100. This very generous act, coupled with the many other favors from the journals and their editors, place the members of this Society under obligations, and I feel sure that you will appreciate it.

Before closing my report I would like to call your attention to the urgent need of forming local societies in all counties or cities where six or more veterinarians can be called together. This is one of the best methods of making our State societies more largely attended and affording better opportunities of forming social acquaintance with each other, and we will also derive very valuable and important ideas from listening to the experience and views of one another.

I am glad to see that New York City has in view the formation of such a society. As for the city of Buffalo, I shall attempt to arrange a Buffalo or Erie County society, and I hope by our next meeting to hear of several being formed throughout the State.

Our financial condition will be reported by our Treasurer, Dr. John A. Bell, and I trust that my accounts and vouchers, which are here for your inspection, will be found correct and satisfactory.

In closing my report I wish to thank most sincerely the *Veterinary Review* and the JOURNAL OF COMPARATIVE MEDICINE for their very generous act of kindness to the Society for fully publishing all of our notices and proceedings, and always ready to assist us, all free.

Also to thank the members individually and the officers for your kind assistance and consideration during the past four years, and for your kind attention to my present report, which I respectfully submit.

Dr. Morris—I move the report be accepted and placed on file. Seconded by Dr. Jno. Wende. Carried.

The President—Are there any new members present, or any applications to be acted up n? There were none presented.

The President—The Board of Censors will report on the applications of Drs. Pohl and Moadinger.

Dr. Morris—We find Dr. Pohl's election valid, and that he will be a member of this Society in good standing when his fees and dues are paid. We have decided that Dr. Moadinger has not been elected a member and desire that his application be held over until the next meeting, pending an investigation of the New York College of Veterinary Surgeons.

Dr. Baker—I move the report be accepted.

Dr. John Wende—Second the motion. Carried unanimously.

The President—The Committee on Legislation will report.

Dr. Morris—We have no report to make, as nothing has been done since the last meeting.

Dr. Baker—I would like to introduce an amendment to present law regarding registration.

The President—We will listen to it later. The Committee on By-laws and Constitution will report.

Dr. Hinkley—There is no report to make since last meeting, at which time the By-laws were revised. They will be printed and delivered to the members soon.

Moved and seconded the reports be accepted and placed on file. Carried.

The President—The Committee on Prosecution will report.

Dr. Hinkley—I learned of one case in Albion where an illegal practitioner was prosecuted and fined $50.00; in default of payment of fine he was sent to jail.

The President—The County Secretary's report.

Dr. Baker, Cortland Co.—The Local Board of Health wanted an investigation made among the dairymen and milkmen of Cortland County and the result was that several cows were destroyed on account of being affected with tuberculosis.

Dr. Nodyne, Wayne Co.—No report to make.

Dr. Gowland, Cayuga Co.—No report to make.

Dr. Cowie, St. Lawrence Co.—No report to make.

Dr. Morris, Kings Co.—On account of having left King's County soon after being appointed, I have no report to make.

The President—I will appoint Dr. Morris County Secretary for Duchess Co., and Dr. R. A. McLean for Kings. Others will continue to act as they stand appointed.

Dr. Huff, Oneida Co.—No report to make.

Dr. Poucher, Oneida Co.—No report to make.

Dr. James, Otsego Co.—Tubercnlosis seems to be prevalent in my county to quite an extent.

Dr. Willyoung, Orleans Co.—Although absent from the meeting, sent quite an extensive report, which was read before the meeting.

Moved and seconded the County Secretaries' reports be accepted and placed on file. Carried.

Prof. Law—I made a statement a year ago which appeared wrong when printed in the Journal. I stated that cases should be reported. It appeared as though I objected to having them reported. I desire this should be corrected. What I did say was:

"Of course it is in the power of veterinarians to stand upon their dignity, and to decline to report cases to the State Board of Health. But let me submit the question whether as a profession we have not a duty to fulfil to the public in this respect, and whether as citizens and veterinarians we do not owe it to humanity to make prompt report of all cases of disease likely to affect the public health?"

The President—I was evidently the cause for the error in the report. I said: "That unless the veterinarian was properly paid for his services, he should not feel disposed to investigate cases when the State is employing M. D.'s and non-professional men and paying them." We must look out for our own interests as well as for those of the public.

It is in order to have the Treasurer's report now, but owing to the absence of Dr. Bell, the Treasurer, the reading of the report will be postponed until tomorrow.

We will proceed to the election of officers for 1894 and 1895.

Nominations for President were made, Prof. James Law and Dr. R. S. Huidekoper.

Prof. Law—I must ask you to withdraw my name in favor of Dr. Huidekoper; it is impossible for me to attend to the duties of the office in connection with my duties at the University. I withdraw in favor of Dr. Huidekoper. *Dr. Baker*—I move nominations be closed. *Dr. Morris*—I second the motion. Carried.

Dr. Morris—I move the Secretary cast the ballot for Dr. Huidekoper as President of this Society during the time intervening between January 9th, 1894, and September, 1895. Seconded and carried.

Dr. Hinkley—I take pleasure in notifying you of your election as President of this Society.

Dr. Huidekoper made a few appropriate remarks, thanking the Society for the honor conferred upon him.

Nominations for Vice-President. Moved and seconded that Dr. W. L. Baker be nominated for Vice-President. Carried. Nominations closed. Moved and scconded the Secretary cast the ballot electing Dr. Baker to office. Carried. The Secretary cast the ballot and notified Dr. Baker of his election.

Dr. Baker—I thank you and will fill the office to the best of my ability.

Nominations for Secretary and Treasurer in order. Dr. Morris nominated for Secretary-Treasurer. *Dr. Morris*—I must decline and would move that Dr. Hinkley be re-elected to fill the office.

Dr. Hinkley—I must positively decline to accept the office. I have served for the past four years and think some one else ought to accept the office. I would like to see Dr. Morris or some other member of the Society elected to the office.

Dr. Morris—If Dr. Hinkley will accept the office I know it would be for the best interests of the Society to re-elect him.

The President—I sincerely hope that Dr. Hinkley will decide to continue to act as Secretary, as it is certainly for the best interests of the Society.

Dr. Morris—I fully sympathize with Dr. Hinkley and feel sure the members of this Society appreciate the faithful services he has rendered and hope he will continue.

Dr. Hinkley.—I wish you would excuse me from accepting the office. Dr. Morris is fully capable of filling the office.

Moved and seconded the nominations close. Carried. Proceed to ballot. Ballot resulted as follows:—Dr. Morris, 4, Dr. Hinkley, 10. Tellers. Dr Huff and W. B Drake. Moved and seconded that Dr Hinkley be declared elected unanimously to the office of Secretary Treasurer. Carried.

Nominations for Board of Censors in order. The following were nominated, and the vote resulted as follows, the five highest being declared elected:

Dr. Jno Wende	9	Elected
" Jas. Pendergast	6	
" V. L. James.	5	
" W. Huff	5	
" Chas. Cowie	7	Elected
" E. M. Poucher	7	Elected
" G. G. Dean	6	
" Jno. A. Bell	10	Elected
" C. D. Morris	9	Elected

The five gentlemen receiving the largest number of votes were declared elected for the ensuing year. Drs. Jno. Wende, Charles Cowie, M. M. Poucher, Jno. A. Bell, C. D. Morris.

The President.—It is provided in the by-laws that one more member be elected to act with the Committee on Legislation. The following were nominated: Dr. C. D. Morris, Prof. Jas. Law. The vote showed the following result:

Dr. Baker 0, Dr. Morris 2, Prof. Jas. Law 11. Prof. Law declared elected to act on Committee of Legislation.

The President.—We will listen to the reading of Dr. Morris's paper. Subject, Professional Etiquette. See page 109 this journal.

The President.—Gentleman, you have heard the paper read by Dr. Morris. What is your pleasure?

Dr. Baker.—I move a vote of thanks to Dr. Morris for his very able paper.

Dr. Hinkley.—I second the motion and will have the paper published. Carried.

Dr. Morris.—I move we go into executive session. Dr. Huff seconded the motion. Carried.

Dr. Moadinger.—I would like to make a few remarks, Mr. President.

The President.—Please make your remarks in writing and send them in to the Secretary.

Dr. Moadinger.—I will do so. (Dr. Moadinger then withdrew from the room.)

Dr. Morris.—Will Dr. Baker submit the amendment to the present law?

The President.—Dr. Baker will please submit the amendment.

Dr. Baker read the law as existing at present in the State of New York, and adds an amendment that the fine of $50 bc divided equally between the County Treasury and the person laying the information before the Court.

Dr. Wende.—I think it unconstitutional.

Dr. Morris.—On what grounds?

Dr. Wende.—Because it comes in competition with the law in existence now.

Dr. Baker.—I do not think so. This simply changes the division of fine. Discussion continued a short time.

Dr. Morris.—I move we adjourn until 7.30 P. M. Seconded by Dr. Huff, and carried.

EVENING SESSION, JANUARY 9th, '94.

Meeting called to order 7.30 P. M. The President: We will listen to a few remarks from Dr. Moadinger regarding his application.

Dr. Moadinger related the circumstances connected with making his application and obtaining references, sending check for amount of fees and dues and presented receipt for same. Dr. Moadinger's statement corroborated that of Secretary Hinkley, and in closing he asked to withdraw his application for membership. His request was placed in the form of a motion. Seconded, voted on, and carried unanimously.

The Secretary then paid Dr. Moadinger the $7 which he had received on Jan. 17th, 1894, for fees and dues, and in return took back the receipt held by Dr. Moadinger.

A discussion was entered into and carried to quite an extent regarding the prosecution of men who were practicing veterinary surgery without duly registering.

Dr. Baker moved that the Prosecuting Committee be continued as they were.

The President added the following as an amendment: "And empowered to act entailing such expenses as will meet the approval of the Secretary-Treasurer in prosecuting any cases that may come under their observation and those who are practicing illegally." Dr. Baker's motion as amended seconded by Dr. Cowie. Carried.

Dr. Baker.—I move that a committee of three be appointed "of which the President shall be one" to investigate the standing of the Ohio Veterinary College, and the College of Veterinary Surgeons of New York. Seconded by Dr. Bell Carried.

The subject of de horning cattle was brought before the meeting and discussed.

The President.—I believe it is good practice to sear the wound after sawing off the horn.

Dr. Morris cites cases where the farmers in his community use caustic potash on young calves to take off the young horn and stop the growth of same. A short discussion of the subject followed.

Dr Morris.—I would like to hear from some of the members in regard to treating old sores where they continued to form scabs and false growth. Cites a case he had charge of.

Dr. Bell.—I use tannin with good success.

Dr Hinkley.—I think you will find Dr. Bell's mode of treatment together with compresses very good in any of those cases.

Dr. Morris.—How do you treat parturiant apoplexy?

Dr. Cowie.—I have no special treatment. I use hot and cold water alternately with blankets, with good success. I use it from six to eight hours after birth of calf. I have treated four or five cases in that manner.

Dr. Baker.—I have good success with hypodermic injections of strychnia.

Dr. Morris.—I tried large doses of ammonia, strychnia and cold water as recommended by Dr. Sutterby, but was not very successful in my treatment.

Dr. Cowie.—I do not think medicine given internally has any effect when the animal is in a comatose conditon.

Dr. Morris.—I have given purgative when in a comatose condition and had good results from it.

Dr. John Wende.—I have had good success by using aromatic spirits of ammonia and whiskey.

Dr. Bell.—I know cases where good results have been obtained from the use of aromatic spirits of ammonia, turpentine and linseed oil given alternately in doses of two ounces each. I also know of recovery from the use of aconite and belladonna.

Dr. Morrow.—I know of good results being obtained from the use of aconite and belladonna in medium doses every hour. At the same time we cannot depend upon medicine as we can upon surgery.

Dr. Hinkley.—That depends upon the class of medicine you buy. Mentions esorine, pilocapine, and the good results obtained from their use.

Dr. Morris then offered the following resolutions :

RESOLUTIONS.

Whereas, the Secretary of Agriculture in his annual report desires to reform the present system in relation to appointing veterinary inspectors and assistant inspectors in the Bureau of Animal Industry, asked that, "as a condition preceding all such appointments the applicants shall exhibit to the United States Civil Service Commission his diploma from an established, regular, and reputable veterinary college, and that this be supplemented by such an examination in veterinary science as the Commission may prescribe."

Resolved, that this Society unanimously favors this portion of the Secretary's report; that the Society desires to co-operate with the Hon. Secretary toward a realization of this high ideal and much needed reform in the Bureau.

Dr Morris.—I think that parties ought to be appointed after Civil Service examination, and am very much pleased to see the Hon. Secretary of Agriculture taking this course, and I think the veterinarians ought to assist the Secretary in this matter all they possibly can. I offer this resolution as coming from the Society as an approval of the act of the Secretary.

Dr. Huff.—I move the report be accepted, and the Treasurer, John A. Bell be released from his bonds.

Dr. Baker.—Second the motion. Carried.

Dr. Bell.—I move the Secretary make a list of all members who are in arrears for fees, dues and assessments and read the same at the afternoon session.

Dr. Gowland.—I second the motion.

The President.—I will read the names of the members whom I have appointed to act on the different committees during the ensuing year.

The President.—In regard to the duties of the Prosecuting Committee, I would advise them to consult among themselves regarding the test case at Albion, and get a copy of the case and send same to any who may want to make prosecution in any part of the State ; also consult with the Secretary-Treasurer and abide by his descision as to the amount of expense to be entailed in making said prosecutions.

Dr. Bell.—I would advise having copies of the case made and sent to all members of this Society.

Dr. Jno. Wende.—We ought to take some action in regard to the institutions that are issuing diplomas for practicing veterinary dentistry. There are one or two such in Toronto, Ont. One man named Lucas, who is a carpenter by trade, has a certificate of some corporation and uses it in place of a veterinarian's diploma. He has been known to issue certificates to young men leaving Canada, giving them the right to practice veterinary dentistry. There is one Dr. McPherson in Canada who issues certificates for the same purpose.

Dr. Baker.—I have seen the certificates issued by Dr. McPherson, and know that he issues them. I believe veterinary dentistry ought to come under the head of veterinary surgery. If a veterinarian wants to make a specialty of dentistry, let him do so after graduating from a veterinary college or university of reputable standing.

The President.—I agree with Dr. Baker, and would like to ask him if he learned anything from Dr. McPherson or any of his pupils that he did not learn at college?

Dr. Baker.—No, sir.

Dr. Cowie.—Do any of you know personally of Dr. McPherson having issued certificates or diplomas?

Dr. Jno. Wende.—I have seen two certificates in Buffalo, one issued by McPherson and one issued by Lucas, both parties holding them were practicing veterinary dentistry in Buffalo.

Dr. Jno. Wende.—I move to appoint a committee of three to draw up a resolution condemning the institute issuing dental diplomas.

The President.—I would amend that to include all institutions issuing diplomas for practice of veterinary dentistry only, as that is considered a part of veterinary surgery, and no one ought to be allowed to practice it unless a graduate in veterinary medicine and surgery.

Dr. Hinkley.—I agree with Dr. Huidekoper. Anyone who has graduated from a veterinary college ought to have learned enough about dentistry to be able to practice it as met with. I think we ought to condemn the schools issuing the certificates or diplomas as has been stated by the members here.

Dr. Cowie.—Do you intend to condemn the man who, after graduating, takes a special course in dentistry?

The President.—No, sir; not those who graduate, but the institution that teaches veterinary dentistry and does not teach veterinary surgery.

Dr. Baker.—I second Dr. Wende's motion as amended by Dr. Huidekoper. Carried.

The President.—I will appoint Dr. Jno. Wende, Dr. W. L. Baker, Dr. E. H. Nodyne a committee of three to draw up the resolution.

RESOLUTION.

WHEREAS, Certain persons giving instruction in veterinary dentistry issue certificates in the form of diplomas, and

WHEREAS, We do not recognize veterinary dentistry as a special and separate art or science, but only as an item in the education and practice of every qualified veterinarian,

Resolved, That we deprecate the assumption of the title of veterinary dentist as arrogant and misleading to the public; be it further

Resolved, That we condemn the issuing of certificates of proficiency in veterinary dentistry which approach the form of diplomas and are intended to mislead the public, and that we do not recognize such certificates as entitling the bearer to assume the title of veterinary surgeon or register as a practitioner of veterinary medicine.

JNO. WENDE, V.S.,
W. L. BAKER, V.S.,
E. H. NODYNE, V.S,
Committee.

The following section was discussed but not included in the resolution:

Resolved, That where such so-called veterinary dentists are called in to attend to horses' mouths in the stables in which we practice, or where we are called on to examine in any way the mouths of horses which have been treated by the so-called specialists, that we advise charging the owner consultation fees in place of ordinary visit fees.

Dr. Jno. A. Bell read a communication on practical experience of his regarding nail in the foot. See page 119 this Journal.

This paper was read for the purpose of getting the views of different members regarding the treatment of wounds of the foot with hot and cold water, or hot and cold applications.

Dr. Bell.—I would like to ask Dr. Wende why he uses cold applications in laminitis and warm water in other cases.

Dr. Wende.—I judge from the results I get. I treat different cases in different manner as the symptoms call for.

Dr. Baker.—I favor cold water. Heat favors exudation which I do not like. I have used ice bags, applying them from the hoof to the body, with very good results. I used warm water for two years in my practice and the results obtained were very unsatisfactory.

Dr. James.—I use warm applications. I believe them to be more agreeable to the patient.

Dr. Huff.—In acute form I use hot applications and cold applications later with very good results.

Dr. Jno. Wende.—I use three to four ounces of fld. ext. of jaborandi in one pint of water, blanket the horse and let him stand until after the action of the jaborandi and allow him to stand in cold water. He is generally cured in from 24 to 48 hours.

Dr. Hinkley.—I find we must treat different cases differently. In some cases of laminitis, following indigestion, I find hot water with aromatic spirits of ammonia give very satisfactory results.

Dr. Jno. Wende.—I would not use jaborandi where the pulse is over 60 degs.

Dr. Bell.—Where a nail strikes the foot I like cold applications best.

Dr. Wende.—I use hot water in those cases to prevent tetanus.

Dr. Papworth.—Will using hot poultices be more liable to cause tetanus than hot water?

Dr. Wende.—I think so.

The President.—I use both hot and cold water as circumstances admit regarding facilities for taking care of the case. I sometimes poultice the whole length of the leg. I do not think there is danger of tetanus where the knife is freely used and the wound is thoroughly opened, but believe there is danger of it when the wound is kept closed.

I do not think the pathology of laminitis is the same in all cases. Where it is caused by over-eating it is different from a case caused by influenza or other diseases of that nature My treatment in the first-mentioned cases is to bleed from the jugular vein to the extent of four or five quarts, and in other cases pare the foot very thin and bleed from the toe; cut away the wall and get a free hæmorrhage. I have used nitrate of potash with good results.

Dr. Dean —Dr Wende, would you advise using cathartics in laminitis?

Dr. Wende.—Not in all cases.

Dr. Hinkley.—I agree with Dr. Huidekoper in the treatment of the wounds: Keep them open, and I treat with peroxide of hydrogen with very good results.

Dr. Jno. Wende.—I have good results by cutting away the sole all that I can and treat the wound antiseptically.

Dr. Huff.—I treated a case which I turned away apparently well. After horse was in use a few days I was sent for and found him suffering from tetanus. Made good recovery.

The President —Dr. Huff, in your case I think if the horse had died you would have found a cell of pus up in the foot on post-mortem examination. I find it a good idea to cut away all walls covering inflammatory products in foot trouble or chronic founder

Dr. Dean.—How do you find inflammatory points?

The President —By feverish inflammatory condition and soreness

Dr. Cowie.—Do you not have trouble with granulation afterward?

The President —Not with proper dressing.

Dr. Cowie.—I mean from acute inflammation from puncture?

The President.—No, sir; I only cut the ends of the papilla until drops of blood come through from pressure.

Dr. Cowie.—I move a vote of thanks to Dr. Bell for his very able and interesting paper.

Dr Baker.—I second the motion. Carried. Adjourned for dinner.

WEDNESDAY, JAN. 10TH, 1894.—AFTERNOON SESSION.

Meeting called to order at 2 P. M

The President.—The Secretary will read any communications that will be of interest to the members. Communications were read from Drs. Minchin, Dutcher and Austin.

A discussion regarding the place of the next meeting followed, after which a motion was made by Dr Ingalls, seconded by Dr. Huff, that a ballot be taken to decide the place of next meeting. Carried The ballot showed that the majority favored going to Albany. So decided.

The President.—Will the Secretary please read the names of the delinquent members, and I would suggest the Secretary write each delinquent member that his name has been brought before the members of this meeting and that we must ask him to pay up all indebtedness within ninety days, or he is liable to suspension at the next meeting.

Dr. John A. Bell.—I would offer this as a resolution:

That the Secretary write to all delinquent members that their names are before the members of the Society on account of non-payment of fees, dues and assessments, and that ninety days from date of first notice a second notice be sent, and report results at the next meeting.

Dr. Baker.—I move the resolution be accepted and passed.

Dr. Huff.—I second the motion. Carried.

The President.—We are simply taking a course similar to that of the United States Veterinary Medical Association, and we must insist upon having these small accounts promptly paid, and if they do not intend to pay, we want them to say so.

Dr. Hinkley.—I would make a motion that after this date, where an assessment is made. that applicants who are elected to membership at the same meeting shall be exempt from paying that assessment.

Dr. Poucher.—I second the motion. Carried.

The President.—We will listen to the reading of Dr. Willyoung's paper on "Comparative Ovariotomy" Owing to the absence of Dr. Willyoung, the Secretary's assistant, Mr. Drake, will read the paper.

Comparative Ovariotomy will be published March Journal.

Dr. Bell.—I approve of Dr. Willyoung's method of operating. It is nearly the same as I follow.

Dr. Wende.—I have operated on some; usually remove to the forks of the horns.

The President.—I do not use anæsthetics in operating on those cases. I think it is better without them.

Dr. Gowland.—I agree with Dr. Huidekoper.

The President.—I have been asked what dressing I use in old and indolent sores, shoe boils, etc. Would say I find a mixture of Bals. Peru. 1 pt., Iodoform 1 oz., very good to use in all cases of granulating surfaces, especially shoe boils.

Dr. Huff.—At what stage do you use the above?

The President.—After removing the fibrous tumor.

Dr. Hinkley.—In dissecting a fibrous mass, do you take out all small fibres?

The President.—Yes, I do.

Discussion closes.

Dr Hinkley.—Inasmuch as some of our members notified me that they would read a paper at this meeting, and I have published it together with the subjects given me by them, and that members have come here expecting to hear these papers read and discussed, and to take part therein, and as the essayists have failed to do as they promised and have given no reason for their absence, I would offer the following resolution:

WHEREAS, Inasmuch as certain members of our Society have notified and promised the Secretary of this Society that they would write, read and defend certain essays on their chosen subjects at this annual meeting to be held at Syracuse, N. Y., Jan. 9th and 10th, 1894;

WHEREAS, The failure of said members to either attend, send papers, or excuses to the Secretary, stating why they could not attend the meeting, and by such flagrant neglect have caused delay and annoyance to the attending members of the Society; be it

Resolved, That members having essays to read be earnestly requested either to be present to read and defend their papers or send said papers, or a written notice of their inability to do so, and not subject the members of the Society to the above-mentioned annoyance and delay.

Dr. Bell.—I move Dr. Hinkley's resolution be accepted and placed on the minutes of the proceedings.

Dr. Cowie.—I second the motion. Carried.

The President.—Will Dr. Wende please read the paper which he has?

Dr. Wende.—I did not expect to read a paper at this meeting, but owing to the absence of essayists, will do as the President requests.

Dr. Wende's paper on Pyo-septhaimie, see page 116 this Journal.

Dr. Jno. A. Bell.—We meet with very few cases in this country.

Dr. Wende. —I had one case; a colt of my own which I lost with it.

The President.—Dr. Wende, have you had many cases?

Dr. Wende.—Quite a few.

Dr. Bell. Where did you do the cutting?

Dr. Wende.—I cut the umbilicus lengthwise open to the body to find the vein. I put in human catheter and use sol. creoline with bulb syringe.

Dr. Huff.—How old is the colt, usually?

Dr. Wende.—From three days to six weeks.

Dr. Huff.—Do you find any germs?

Dr. Wende.—No, sir.

Dr. Bell.—I thought it was caused by a germ.

Dr. Wende.—No, sir; it is caused by absorption.

Discussion closed.

The President.—I will appoint the following gentlemen as essayists for the next meeting: Dr. W. L. Baker, Dr. Jno. Wende, Dr. Jno. A. Bell, Dr. Wm. H. Kelley, Dr. W. Huff.

Dr. Hinkley.—Before we adjourn I wish to offer a resolution of thanks to the members of this Society who have furnished and read the interesting and very able papers at this meeting; also the members for their attention and interest displayed during the sessions, and to the proprietors of the Vanderbilt House for their kind and courteous hospitality.

Dr Wende.—I move that the resolution be passed as an expression of the members.

Dr. Baker.—I second the motion. Carried.

The meeting adjourned, subject to the call of the Secretary.

The next meeting will be held at Albany during the month of September, 1894.

RUSH S. HUIDEKOPER, *President.* NELSON P. HINKLEY, *Secretary.*

APPENDIX.

OFFICERS 1894–5.

President	Rush S. Huidekoper	155 West 56th Street, N. Y.
Vice-President	W. L. Baker	Cortland.
Secretary-Treasurer	N. P. Hinkley	395 Ellicott Street, Buffalo.

CENSORS.

John A. Bell	Watertown.
John Wende	Buffalo.
C. D. Morris	Pawlings.
Charles Cowie	Ogdensburg.
E. M. Poucher	Oswego.

COMMITTEES 1894.

Committee of Arrangements—The Secretary-Treasurer (by By-laws), Dr. W. H. Kelley, 295 West Avenue, Albany; Dr. Thomas Giffen, New York.

Committee on Legislation—The President, the Secretary-Treasurer (by By-laws), Prof. James Law.

Committee on By-Laws—The Secretary-Treasurer (by By-laws), C. D. Morris, John A. Bell.

Committee on Investigating Colleges—The President (by resolution), C. D. Morris, W. L. Baker.

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VETERINARY MEDICAL ASSOCIATION OF NEW YORK COUNTY.

A meeting was called to order on January 25th, 1894, by Dr. Thos. Giffen, County Secretary of the New York State Veterinary Medical Society, who in a short address stated that the meeting was called to organize an association in the county of New York, upon the following basis, viz.:

1. To hold regular meetings to discuss professional subjects for mutual improvement, and to improve the status of the veterinary profession by bringing its members into more intimate relationship, and consolidating them as a distinctive professional body in the community.

2. To regulate veterinary affairs and methods in the education and practice of veterinary medicine to be in harmony with and conformity to the regulations of the New York State Veterinary Society and the U. S. Veterinary Medical Association.

He then announced that Dr. W. H. Hoskins, of Philadelphia, Pa., President of the U. S Veterinary Medical Association, was present, and moved that he be made temporary chairman, which was unanimously carried.

Dr. Hoskins, on taking the chair, congratulated the gentlemen present on the step they were about to take, pointing out the benefits that were to be derived by it individually and collectively; then, after speaking briefly of other societies, announced the first business in order would be the election of officers.

Dr. O'Shea nominated for President Dr. R. S. Huidekoper.

Dr. Cattanach, Sr., nominated for Vice-President Dr. J. L. Robertson.

Dr. Neher nominated for Secretary Dr. J. E. Ryder.

The above named officers were elected by acclamation.

For Treasurer three nominations were made, consisting of Drs. Giffen, Loomes and Farley. The chair appointed Drs. Hanson and Neher as tellers, and a ballot was taken; twenty-eight votes were cast, of which Dr. Giffen received 24, Dr. Loomes 3, Dr. Farley 1. The chair thereupon declared Dr. Giffen elected Treasurer, which upon a motion duly seconded was made unanimous.

Moved by Dr. Turner and seconded by Dr. Loomes that a committee of nine be appointed by the chair to draft a constitution and by-laws for this organization. Carried.

The chair appointed Dr. J. L. Robertson, Chairman, Drs. O'Shea, J. S. Cattanach, Neher, Sherwood, Turner, Farley, Gill and Becket.

Moved by C. C. Cattanach, and seconded by Dr. Giffen, that a recess of fifteen minutes be taken for the committee to select name for the organization, officers, when and where to meet, dues, etc. Carried. After the recess the committee reported as follows:

That the name of the organization be The Veterinary Medical Association of New York County.

That the officers be President, Vice-President, Secretary and Treasurer, and a committee of five members who shall be known as the Board of Censors, to be appointed by the President at each annual meeting.

Meetings to be held on the first Tuesday in each month, except during July, August and September.

The meeting to be held in December to be known as the Annual Meeting, at which time all officers are to be elected for the ensuing year, to take office at the following meeting.

Members to consist of

1. Charter Members: All those practitioners of Veterinary Medicine who assist in the organization of the above Association, and conform to the regulations formulated by a two-thirds vote of those in attendance at the meeting of organization.

2. Future Members: To be elected members, who shall be graduates of Veterinary Institutions which are legally entitled to grant Veterinary diplomas, and which shall be recognized by this Association as properly equipped, qualified and conducted for the same.

Dues: Each member of the Association shall pay an initiation fee of $5, and yearly dues of $2, payable annually in advance.

On hearing the report an amendment was offered by Dr. Giffen that registered men who are non-graduates shall be eligible for membership providing their application was received within two months, after which members will have to be qualified, registered and graduated men.

After considerable discussion by several members the amendment was seconded and carried.

Report of committee with above amendment was received and approved.

Moved and seconded that the Committee on By-Laws be continued, and that they report more completely at next meeting. Carried.

Moved by Dr. O'Shea, that a committee of five be appointed by the Chair to confer with those members of the profession having in contemplation the formation of another society. Motion seconded and carried.

Moved and seconded, that Dr. W. H. Hoskins be elected an honorary member of this Association. Unanimously carried. A vote of thanks was also unanimously extended to him.

The Chair appointed the following members as Censors for 1894 : Dr. Liautard, chairman, Drs. O'Shea, Gill, Loomes and Sherwood.

Following as Committee on Conference: Dr. J. L. Robertson, chairman, Drs. Ferster, Giffen, Swan and Neher.

The following constitute the charter members of the Association :

Drs. Birdsall,	Drs. Burget,	Drs. Burchstead,
R. Buckley,	P. Burns,	C. C. Cattanach,
J. J. Cattanach,	W. J. Coates,	W. A. Conklin,
T. Delaney,	R. H. Dickson,	T. H. Doyle,
J. H. Ferster,	O. C. Farley,	S. S. Field,
T. Giffen,	H. D. Gill,	S. K. Johnson,
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E. Loomes,	A. F. Liautard,	R. W. Hickman,
H. Neher,	T. Ogle,	A. O'Shea,
C. A. Parkerson,	E. A. Parsons,	J. L. Robertson,
J. E. Ryder,	P. Richards,	T. Sherwood,
Wm. Swan,	A. Sherk,	C. Sielman,
J. B. Thompson,	T. S. Cattanach.	

All of whom were present except the following : Drs. Birdsall, Burget, Burns, Coates, Field, Johnson, Jackson, Leighton, Liautard, Ogle, Parsons, Sherk.

No further business, meeting adjourned to meet Tuesday, Feb. 6th, '94.

JOHN E. RYDER, *Secretary.*

SECOND ANNUAL MEETING OF THE NORTH DAKOTA MEDICAL ASSOCIATION.

The North Dakota Veterinary Medical Association met at Hillsboro, December 30th, 1893, Doctor Crewe, President, in the chair.

After reading of the minutes by the Secretary, Dr. Hinebauch moved that Article III of the Constitution, which reads as follows, " Members of this organization shall consist of graduates and non-graduates as recommended by the Board of Censors. Such applicants as are non-graduates shall pass an examination which shall be deemed sufficient by the Board of Examiners appointed for the purpose ; examination to take place at the first annual meeting after application has been

made," be amended as follows: "Members of this organization shall consist of graduates of recognized veterinary colleges."

Under the Constitution and By-Laws the amendment cannot come up for final vote until the next annual meeting. It was the sense of the Association, however, that the change was a desirable one.

Dr. Taylor then presented a paper on glandered horses, of which the following is a synopsis:

"Every intelligent owner of a horse is more or less acquainted with that loathsome disease known as glanders, either by tradition or experience. He is aware that it is both contagious and fatal not only to horses, but also to mankind. The fact that the disease has to this day baffled all treatment is sufficient evidence why its detection in a stable is always looked upon as serious. If the disease always assumed the same character, if every glandered horse presented the three special symptoms essentially belonging to it, viz.: sticky and bloody discharge from the nose, hard, painless, inflamed and swollen glands of the jaws, and above all the peculiar and characteristic ulcerations of the mucous membranes of the nasal cavities and chambers, there would be no difficulty in recognizing it, and condemning the animal affected as most dangerous. It is found, however, that horses which suffer from glanders in this country, where the climate is especially dry, that cases are very rare which exhibit any two of these symptoms. At the same time cases do exist which do not exhibit even one of the symptoms, thus making it very difficult to diagnose.

"Animals affected in the latter way are fully as dangerous in transmitting the disease as those which show the symptoms peculiar to the disease; they live longer, and are more apt to pass from one farm to another, thus coming in contact with more horses, and eventually producing a wider spread of the disease than where the typical acute form exists.

"When the disease is once detected there should be no hesitation in destroying the animal, even if doubt exists in the owner's mind regarding the disease; he should not hesitate to call in a properly qualified veterinarian, in order that he may be advised with regard to the true condition which exists."

The discussion which followed elicited the fact that a number of appointments had been made in the different veterinary districts of the State of men who are neither qualified by experience or education to fill the position of District Veterinarian. Many horses undoubtedly have been destroyed for glanders which did not have the disease at all; while on the other hand many which did show unmistakable symptoms of the disease have been allowed to go at large, scattering the disease over wide areas.

Dr. Farmer presented the subject, "Pleuro-pneumonia of a contagious form among horses," but as he had no regularly-prepared paper, his subject was not discussed as thoroughly as it would have been had he placed his observations in writing. Right here I would again like to call the attention of members of this Association, as well as of other associations, to the fact that all papers and communications should invariably be presented in writing, so that the Secretary can report a proper synopsis of them to the veterinary journals.

After the reading of the papers, Dr. D. Fisher, of Grandin, made application, and on vote was admitted to membership in the Association. It was also moved that the Secretary admit all applicants for membership in the Association who can present credentials that are satisfactory. The Association, although but in its second year, is upon good footing, increasing in numbers, and at the present time but three graduates live in the State who do not belong.

T. D. HINEBAUCH, *Secretary*, Fargo, N. D.

ONTARIO VETERINARY MEDICAL SOCIETY.

The following is a brief monthly report of the papers read and discussed in the Ontario Veterinary Medical Society which meets semi-weekly and has for its officers: President, Prof. Smith; Vice-President, Prof. Sweetapple; Secretary, J. S. Dade; Assistant Secretary, E. G. Britton; Treasurer, Judson Black; Librarian, J. McGillicuddy. The following were among those responding with papers:

1. L. R. Webber, "Glanders"; 2. E. M. Nighbert, "Symptomatic Anthrax"; 3. W. N. Armstrong, "Azoturia"; 4. M. B. Rombough, "Cerebro-spinal Meningitis"; 5. J. McGuffin, "Apoplexy"; 6. W. R. Fullerton, "Open Joint"; 7. J. M. Douglas, "Purpura"; 8. W. R. Bell, "Principles and Practice of Horseshoeing"; 9 R N. Morgan, "Heredity"; 10. R. Colthurst, "Roaring"; 11. W. Kreider, "Eccentric Hypertrophy of Heart"; 12. A. W. Baker, "Examination of Horses as to Soundness"; 13. J. Crail, "Lymphangitis"; 14. C. F. Ebner, "Selection of Stock"; 15. A. B. Campbell, "Strangles and its Results"; 16. J. E. Robertson, "Tuberculosis"; 17. R. Turnbull, "Dentigerous Cysts"; 18. C. Nockolds, "The Broncho and his Diseases"; 19. Thos. Flood, "Canine Distemper"; 20. J. E. Robertson, "Irregular Strangles"; 21. C. A. Turley, "Actinomycosis"; 22. A. Barradell, "Tetanus"; 23 L. P. Beechy, "Chronic Spinitis"; 24. W. J. Price, "Acute Rheumatism"; 25. A. W. Whitehouse, "Paris Congress on Tuberculosis"; 26. J. Cunningham, "Chorea"; 27. W. H. Smith, "Hygiene of Animals"; 28. A. J. Kline, "Azoturia"; 29. J. M. Douglas, "Burns and Mechanical Bronchitis"; 30. J. Butler, "Periodic Ophthalmia." There are many that I have omitted in making out this list, but these will suffice to give the reader an idea of the work we are pursuing.

The merit of these papers was such as to demand lengthy and complete discussion—the discussions are always carried on with spirit, the writer being expected to defend his paper against all attacks.

From the list of papers given above, some idea may be formed of the activity which characterizes the work of this Society. Under the guiding hand of the President, each one strives to do his part well, thus laying the foundation for success in the future—after he has finally left the walls of his alma mater—and entered the ranks of the veterinary profession.

J. S. DADE, *Secretary*.

NOTICE.

Additional copies of the Proceedings of the United States Veterinary Medical Association for 1891 and 1892, having been secured by the officers, may be obtained at the Secretary's office, for the cost price of $2.00 per cloth bound, and $1.75 per paper copy.

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MENTION THIS PUBLICATION. NEW YORK.

Scientific and Business Platform

We respectfully invite the attention of physicians and pharmacists to a brief statement of the ethical, scientific and business principles upon which we strive to base our operations as manufacturing chemists. We shall be pleased to communicate with any member of either profession who may desire further literature in amplification of any or all of these principles, and cordially invite such correspondence.

We hold that the manufacturing pharmacist who desires the patronage and values the respect of the physician, should study and conform to those principles of medical ethics which affect the production and marketing of medicinal preparations, therefore:

A. We strive to maintain the highest standard of quality.

Our facilities for securing crude drugs of first quality are unequalled; our processes of manufacture are the latest and best approved; and the highest degree of skill is employed at every stage. Wherever the nature of the drug will permit, the strength of every preparation is determined by repeated assays, from the acceptance of the crude material to the finishing of the product for the pharmacist's shelves. Under other conditions the product is made to conform to some physiological or other recognized test to ascertain its therapeutic efficiency.

B. We do not market any preparation protected by copyright, patent or trade-mark, or by concealed or misrepresented formula.

Please apply to us for literature fully explaining the distinction between these several classes of proprietary preparations, and demonstrating their respective objectionable features.

C. We do not so label or advertise our products as to encourage, or admit of, their use by the public without the advice of the physician.

Any physician who has seen a former patient purchase for himself, and without a doctor's advice, a remedy labelled with the disease which it is designed to cure or alleviate, with full directions as to dose, etc., and which he himself had prescribed on a previous occasion, will appreciate the bearing of this principle upon his purse and reputation.

D. To the end that the product, and the art of its manufacture, may never become lost to science, every medical preparation should have a proper name, open to general scientific usage, and its formula should be published in scientific literature in such a manner that any competent pharmacist may readily prepare it.

Many articles claiming to be pharmaceuticals cannot be admitted to the Pharmacopœia, or accepted in scientific literature, for the reason that the names are claimed as private property, and their formulæ, or art of manufacture, are nowhere published, but are things of trade secrecy. Our processes and formulæ are open to the inspection of all properly interested persons at any seasonable time, and any pharmacist may market any of our preparations under its proper name, if only the same be not represented as of our manufacture.

E. We hold further that the manufacturing chemist should lend his superior resources to the advancement of both medical and pharmaceutical science; that he ought not to act altogether from a selfish pecuniary motive, but should have in view the general well-being of humanity and, as tending to this end, the continued progress of medicine and pharmacy.

In pursuance of this belief, we have expended large sums in therapeutic, physiological and chemical research; employed able botanists in exploring the habitats and studying the characteristics of new drugs; promoted exhaustive physiological experiments to determine their therapeutic value; made expensive tests in our laboratory to determine the most available form of preparation; and have then placed, free of cost, at the disposal of the medical profession, samples of the same for clinical experimentation, until the medicinal value was ascertained. Where no therapeutic worth was found, the drug has been relegated to deserved oblivion; yet as the outcome of our individual efforts, the medical profession now has such valued remedies as: Cascara sagrada, Grindelia robusta, Jaborandi, Coca, Jamaica dogwood, Black haw, Berberis aquifolium, Cheken, Pichi, and others.

Basing our claims to the consideration of the physician and pharmacist upon the foregoing statements, an investigation of the truth of which we earnestly solicit, we remain, Yours very truly,

PARKE, DAVIS & COMPANY.